

TEAC®



SERVICE MANUAL

V-970X/R-919X

STEREO CASSETTE DECK

1 SPECIFICATIONS

仕様

Track System 4-Track, 2-Channel Stereo
Heads R-919X 4: 2 Erase, 1 Record and 1 Playback (Rotary)
V-970X 3: 1 Erase, 1 Record and 1 Playback (Combination)
Type of Tape Cassette tape C-60 and C-90 (Philips type)
Tape Speed 4.76 cm/sec. (1-7/8 ips)
Motors 3: 1 DC Servo motor (for capstan drive)
1 DC motor (for reel drive)
1 DC motor (for ancillary control)
Wow and Flutter (WRMS) 0.03 % (R-919X), 0.025 % (V-970X)
Frequency Response (Overall) -20 dB
20 - 21,000 Hz Metal Tape (25 - 20,000 Hz ± 3 dB)
20 - 20,000 Hz CrO₂ Tape (25 - 19,000 Hz ± 3 dB)
20 - 18,000 Hz Normal Tape (25 - 17,000 Hz ± 3 dB)
Signal-to-Noise Ratio (Overall)
60 dB (3% THD Level, Weighted)
70 dB (Dolby B In, over 5 kHz),
80 dB (Dolby C In, over 1 kHz),
92 dB (dbx In, at 1 kHz)
Dynamic Range 110 dB (dbx in, 1 kHz Peak Level)
Fast Winding Time Approximately 100 seconds for C-60

Inputs Line: 60 mV, 50k ohms
Outputs Line: 0.3 V for load impedance of 50k ohms or more
Headphones: 8 ohms
Power Requirements 120/220/240 V AC, 50/60 Hz (General export models)
120 V AC, 60 Hz (U.S.A./Canada)
220 V AC, 50 Hz (Europe)
240 V AC, 50 Hz (U.K./Australia)
Power Consumption 27 W
Dimensions (W x H x D)
435 x 123.5 x 279.5 mm (17-1/8" x 4-7/8" x 11")
471 x 123.5 x 279.5 mm (18-9/16" x 4-7/8" x 11") (V-970X, with side panel)
Weight 5.9 kg (13.01 lbs) net,
6.6 kg (14.55 lbs) net (V-970X, with side panel)

- Specifications were determined using metal tape except as noted.
- Improvements may result in specifications or features changing without notice.
- Photos and illustrations may differ slightly from production models.

NOTES:

Improvements may result in SPECIFICATIONS changes.
Value of "dB" in the data refers to 0 dB (0.775 V), except where Specified.

注

1. 仕様は改善のため、予告なく変更することがあります。
2. 本マニュアルの 0 dB は 0.775 V を基準としています。

CAUTION

1. Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.

注意

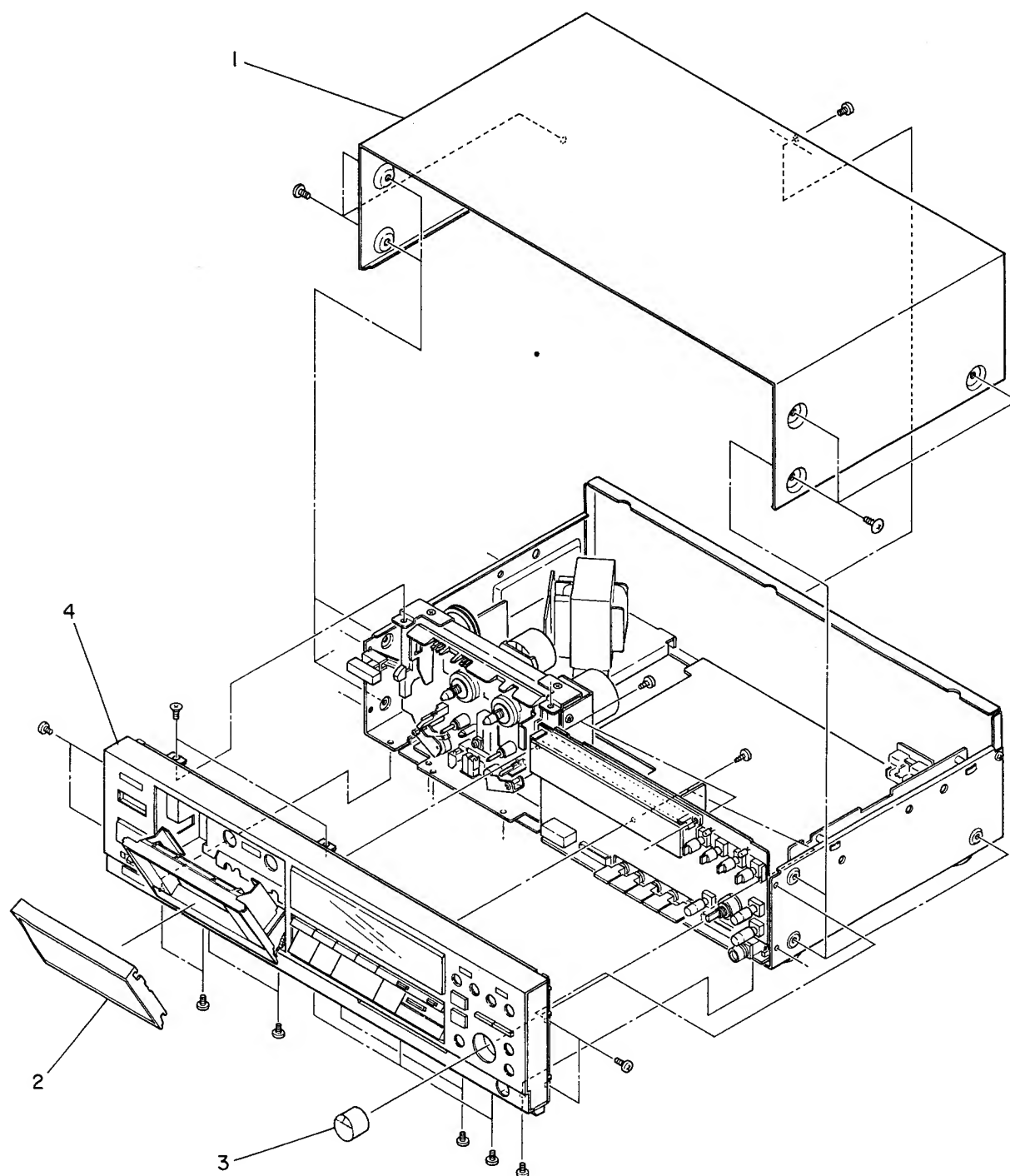
△印は安全重要部品です。交換する時は必ずティアック指定の部品を使用してください。

- Dolby Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- dbx Noise Reduction system made under license from dbx, Incorporated. The name "dbx" and the dbx symbol are trademarks of dbx, Incorporated.

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- ドルビー及び DD は、ドルビー研究所の登録商標です。
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2 REMOVAL OF EXTERNAL COMPONENTS

外装部品の外し方



3 PARTS LOCATION

部品配置図

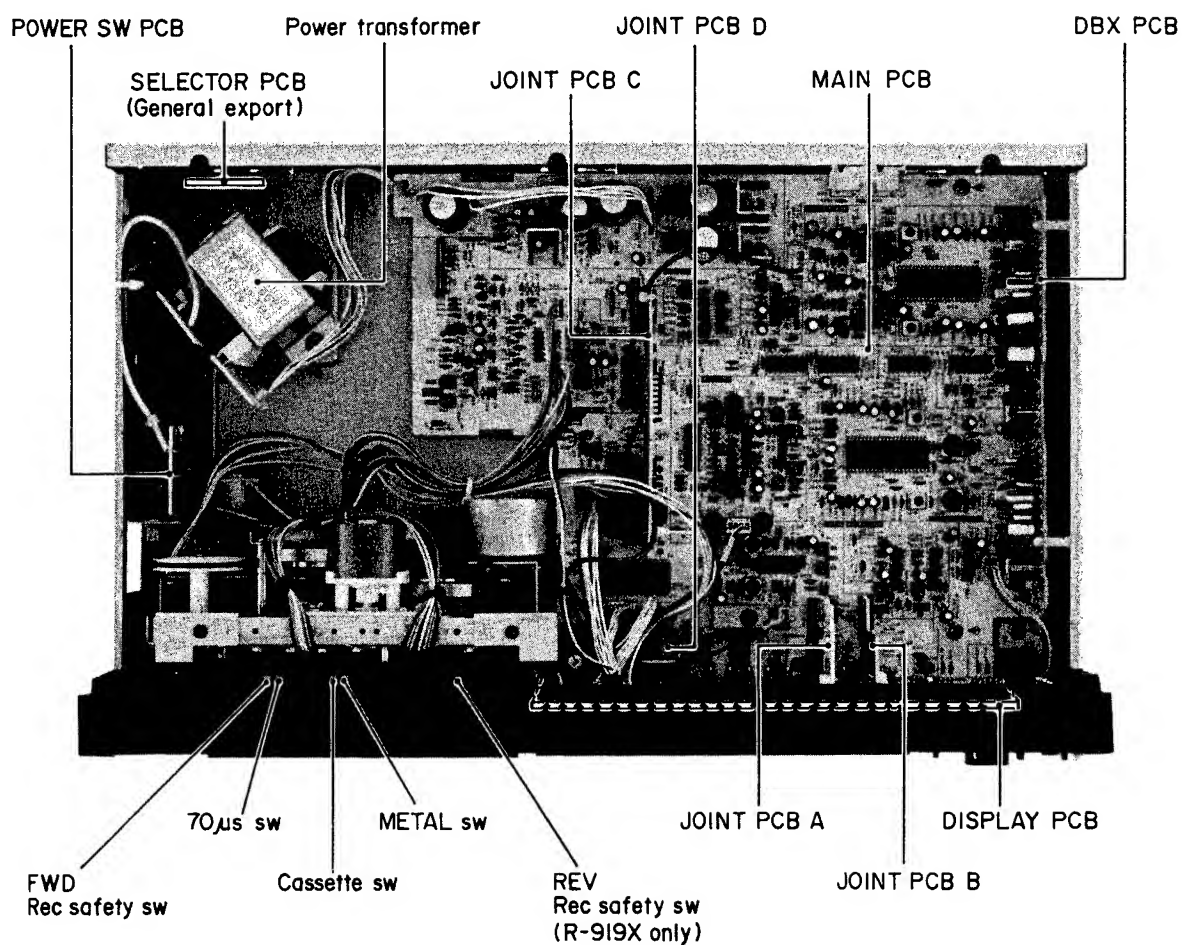


Fig. 3-1 Top view 上面図

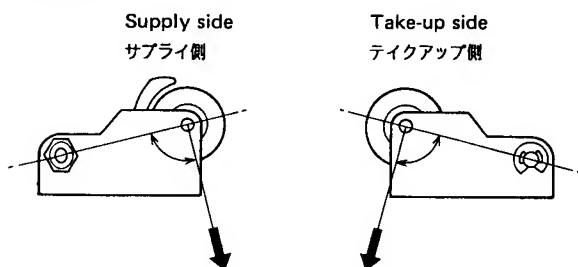
4 MECHANICAL ADJUSTMENTS AND CHECKS

機構部の調整と確認

4-1 PINCH ROLLER PRESSURE

1. Press the cassette switch (see Fig. 3-1) up to set the deck to the playback mode.
The cassette switch should be pressed up throughout measurement.
 2. Hang the spring scale from the pinch roller arm.
 3. Extend the spring in the direction shown in the figure until the rotation of the pinch roller stops, then return it gradually so that the pinch roller comes into contact with the capstan shaft again.
 4. Read the value at the moment the pinch roller starts rotating.
- Standard values
- V-970X Take-up side : 390 g – 490 g (13.8 oz – 17.3 oz)
Supply side : 170 g – 230 g (6.0 oz – 8.1 oz)
- R-919X FWD/REV play: 380 g – 480 g (13.4 oz – 16.9 oz)

V-970X



4-1 ピンチ・ローラ圧着力

1. カセット・スイッチ (Fig. 3-1 参照) を上方に押してプレイ・モードにする。
測定中、カセット・スイッチは上方に押し続けること。
 2. ピンチ・ローラ・アームにバネ秤を掛ける。
 3. 秤をピンチ・ローラの回転が止まるまで図示の方向に引張った後、ピンチ・ローラが再びキャプスタン・シャフトに接触するよう徐々に戻す。
 4. ピンチ・ローラが回り始めるときの値を読む。
- 規格値 V-970X テイクアップ側 : 390 g ~ 490 g
サブライ側 : 170 g ~ 230 g
- R-919X FWD/REV プレイ : 380 g ~ 480 g

R-919X

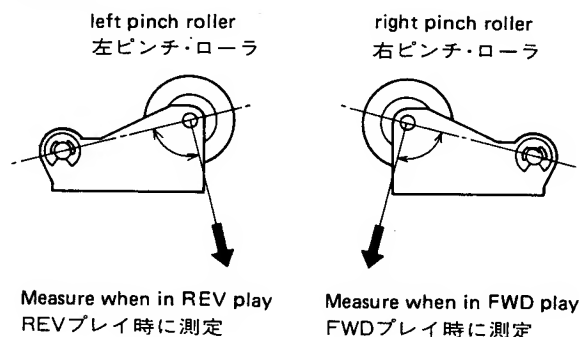


Fig. 4-1 Pinch roller pressure measurement ピンチ・ローラ圧着力測定

4-2 TAPE PATH ADJUSTMENT

Note: The following special tools and tapes are required for this section.

- Head check jig A (P/N 5736006600)
- Head check jig B (P/N 5736006700)
- MTT-150 test tape (for Dolby level calibration)
- MTT-356 (or MTT-256) test tape (for frequency response check)
- MTT-902 mirror tape (C-90 type)

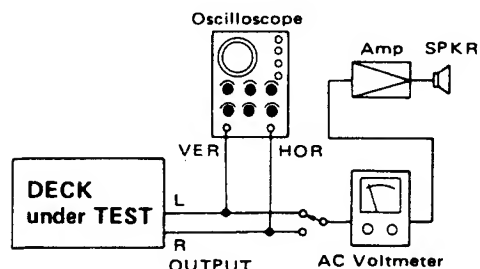


Fig. 4-2 Test setup for azimuth adjustment
アジマス調整接続

4-2 テープ走行調整

注：この調整を行うためには次の治具，テスト・テープが必要です。

- ヘッド治具A (P/N: 5736006600)
- ヘッド治具B (P/N: 5736006700)
- MTT-150 テスト・テープ(ドルビー・レベル・セット用)
- MTT-356 (又はMTT-256) テスト・テープ(周波数特性測定用)
- MTT-902 ミラー・テープ (C-90型)

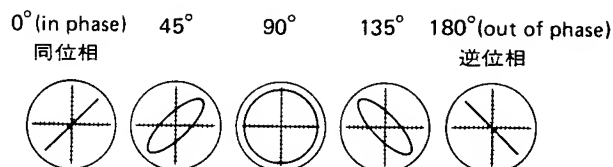


Fig. 4-3 Confirming phase relationship
位相関係図

V-970X

Note 1: When the record/playback head has been replaced, tighten screws (A), (B), (C) shown in Fig. 4-6 until they stop, then slacken them by 1-1/2 turns before starting alignment.

Note 2: When the erase head has been replaced, install it as shown in Fig. 4-6'.

1. Attach head position alignment jigs A and B, then set the deck to the play mode.
2. Fit jig B on the tape guide of the record/playback head as shown in Fig. 4-5, then align the height with screw (A) as shown in Fig. 4-6.
3. Fit jig B to the head as shown in Fig. 4-5 to check its tilt and align it using screws (B) and (C) shown in Fig. 4-6. Then align the height again with screw (A).
4. Repeat alignments in procedure 2 and 3 two or three times to align height and tilt. (When adjusted to the standard height, the head should be under the tape guide.)
5. Fit jig B to the tape guide of the left pinch roller and align the height with nut (E). (The standard height is above the tape guide.)
6. Play test tape MTT-902, and adjust nut (E) so that the lower edge of the tape guide of the record/playback head is in contact with the tape edge, but the tape is not curled.
7. Adjust the azimuth of the playback head with screw (C) shown in Fig. 4-6 according to item 5-3 (on page 15). If the screw is rotated by half a turn or more, turn screws (A) and (B) by the same amount then align again from item 6 to correct the height of the tape guide of the record/playback head.
8. Adjust the azimuth of the record head with screw (D) shown in Fig. 4-6 according to item 5-5. (Refer to page 18.) Screw (D) should not be turned more than half a turn.
9. After alignment is complete, check that the tape does not curl over the tape guide by repeating play and stop operations.

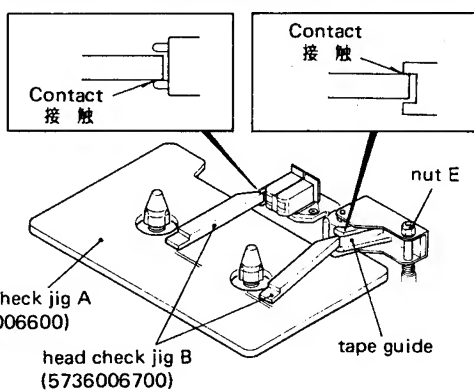


Fig. 4-4

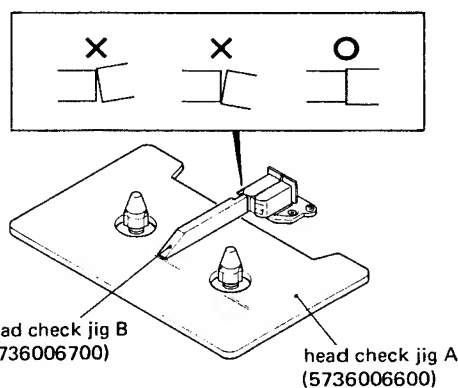


Fig. 4-5

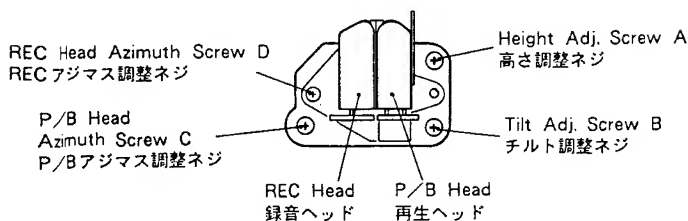


Fig. 4-6

注 1. 録・再ヘッドを交換したときは、Fig. 4-6 のネジ (A), (B), (C) が止まるまで締め、その位置からそれぞれのネジを 1.5 回転ゆるめた状態で調整を始めること。

注 2. 消去ヘッドを交換したときは、Fig. 4-6' のように取付ける。

1. ヘッドの位置調整治具 A, B をセットしプレイ・モードにする。
2. Fig. 4-4 のように録・再ヘッドのテープ・ガイドに治具 B を当て、Fig. 4-6 のネジ (A) で高さを調整する。
3. Fig. 4-5 のように治具 B をヘッドに当ててチルトを確認し、Fig. 4-6 のネジ (B), (C) で調整した後、再度ネジ (A) で高さを調整する。
4. 上記 2, 3 項の調整を 2~3 回繰り返す。高さ、チルトを調整する。(高さの基準はテープ・ガイドの下側とする)。
5. 左ピンチ・ローラのテープ・ガイドに治具 B を当て、ナット (E) で高さを調整する。(高さの基準はテープ・ガイドの上側とする)。
6. テスト・テープ MTT-902 を走行させ、録・再ヘッドのテープガイドの下側がカールしない程度に当たるようナット (E) を調整する。
7. 再生ヘッドのアジマス 5-3 項 (15 ページ参照) に従って Fig. 4-6 のネジ (C) で調整する。1/2 回転以上回したときは録・再ヘッドのテープ・ガイド高さを合わせるため、ネジ (A), (B) も同量回し再度 6 項に戻り調整をやりなおす。
8. 録音ヘッドのアジマスを 5-5 項 (18 ページ参照) に従って Fig. 4-6 のネジ (D) で調整する。ネジ (D) の調整範囲は 1/2 回転以内とする。
9. 全ての調整の後、プレイ・ストップを繰り返し、テープ・ガイドでテープがカールしないことを確認する。

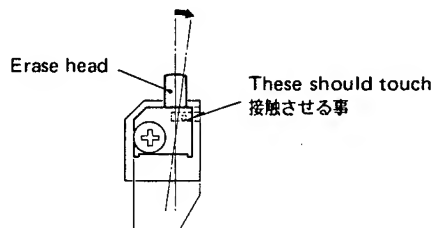
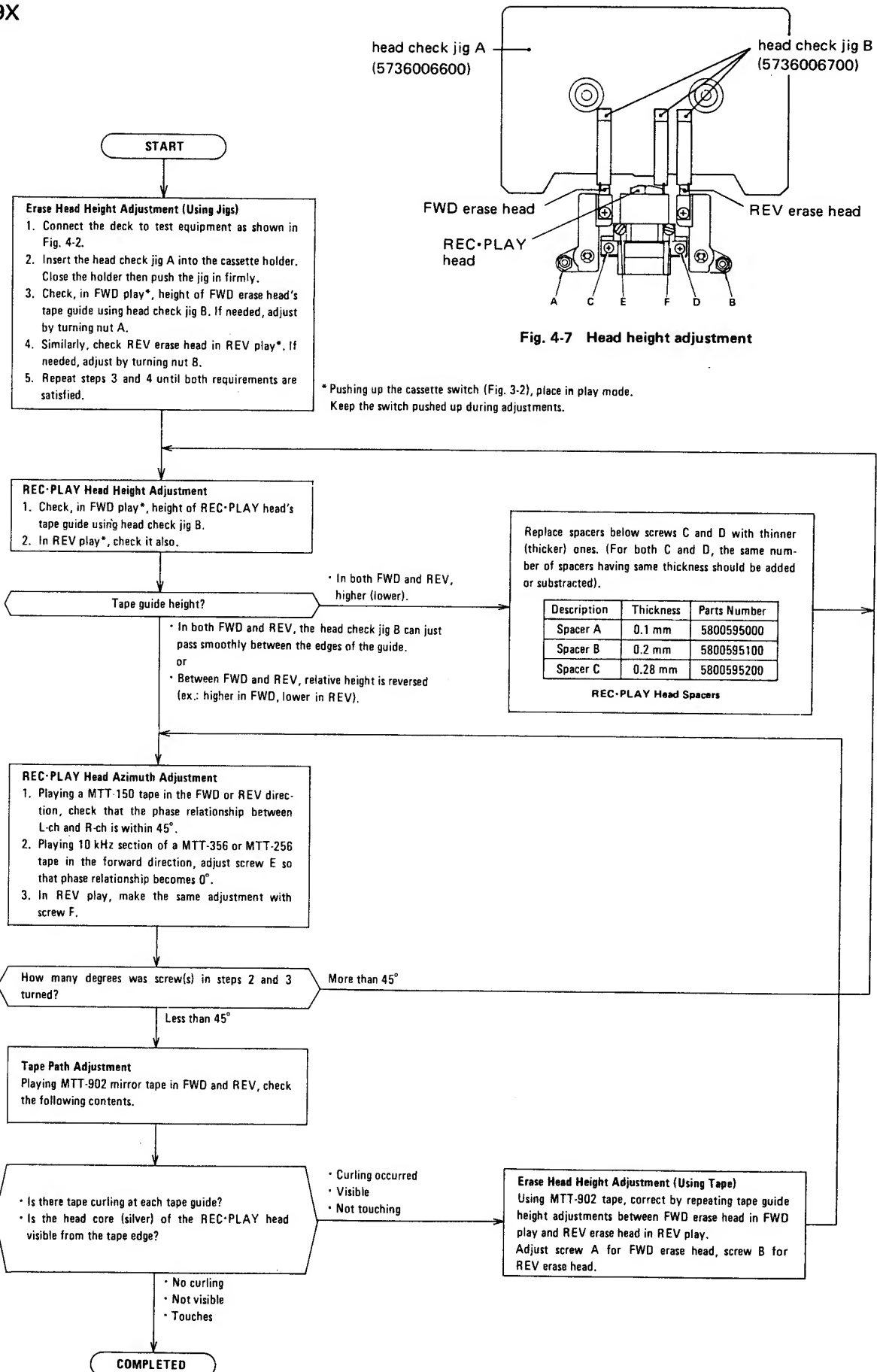


Fig. 4-6'

R-919X



R-919X

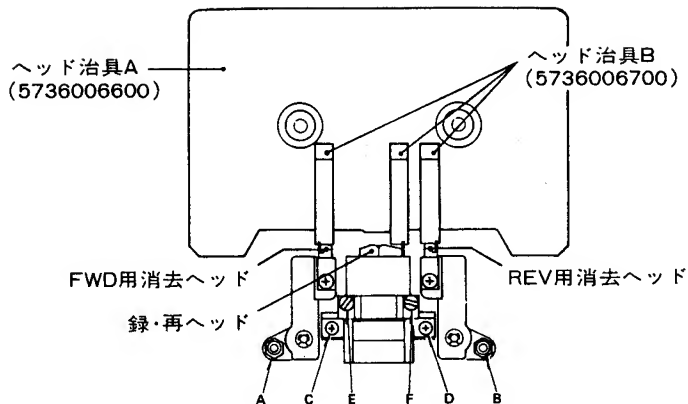
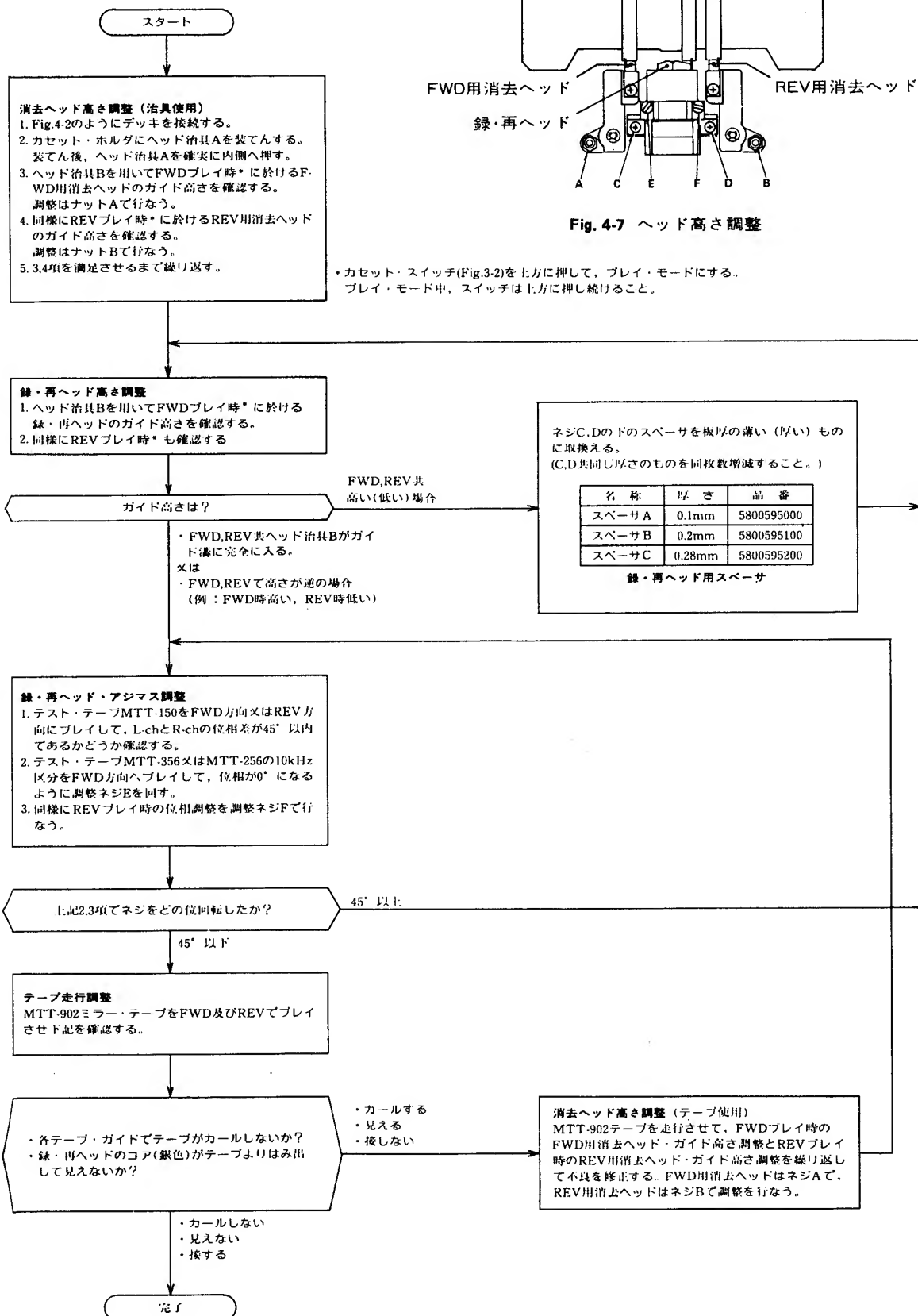




Fig. 4-7 ヘッド高さ調整



4-3 PHOTO SENSOR ADJUSTMENT (R-919X)

1. Connect DC voltmeter as shown in Fig. 4-8.
2. Playing, in REV direction, magnetic tape portion of test tape consists of elements in Fig. 4-9 (MTT-5551 tape, etc.), adjust R84 so that a voltage of 3.0 V is obtained at TP.
3. In FWD play, similarly adjust R83 for obtaining a voltage of 2.8 V.
4. Re-check that voltage in REV play does not change from 3.0 V.
5. Set AUTO REVERSE switch in  position, then play tape in FWD mode from point A in Fig. 4-9. Check that tape motion changes in REV play mode at point B, then changes in FWD play mode at point A.

4-3 フォト・センサ調整 (R-919X)

1. DC 電圧計を Fig. 4-8 のように接続する。
2. Fig. 4-9 に示す構成のテスト・テープ (MTT-5511 等) の磁気テープ部分を REV プレイで走行させたとき、TP の電圧が 3.0 V になるよう R84 を調整する。
3. 同様に FWD プレイで走行させ、TP の電圧が 2.8 V になるよう R83 を調整する。
4. REV プレイ時に TP の電圧が 3.0 V から変わらないことを再確認する。
5. AUTO REVERSE スイッチを  位置にセットし、テープを Fig. 4-9 の A 点より FWD プレイさせる。テープが B 点の位置で REV プレイに反転し、その後 A 点の位置から再び FWD プレイ動作することを確認する。

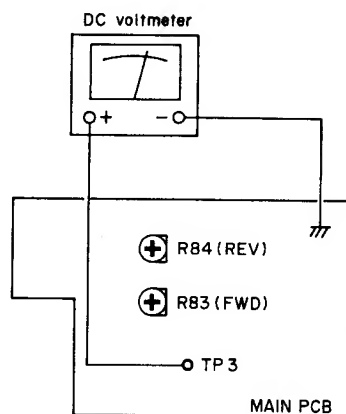


Fig. 4-8 Photo sensor adjustment (1) フォト・センサ調整(1)

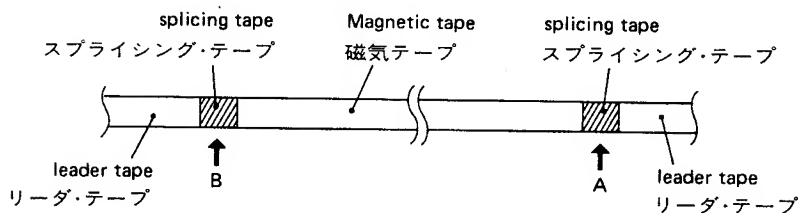


Fig. 4-9 Photo sensor adjustment (2) フォト・センサ調整(2)

4-4 REEL TORQUE CHECKS AND ADJUSTMENTS

- Using a cassette torque meter, check that reel torque at each tape transport operation is within the following specified range.

	V-970X	R-919X
Take-up	25 ~ 60 g·cm (0.34 ~ 0.83 oz·inch)	25 ~ 60 g·cm (0.34 ~ 0.83 oz·inch) (FWD/REV)
*Back Tension	0.40 ~ 0.56V	0.40 ~ 0.52 (FWD/REV)
Fast Forward/ Rewind	90 ~ 160 g·cm (1.25 ~ 2.22 oz·inch)	

*Back Tension

- Connect a DC voltmeter between TP.4 and TP.GND on the main PC board.
- Play the middle part of test tape MTT-5511 and adjust the following so that the voltmeter shows the values in the above table.
V-970X: R42
R-919X: R42 (FWD), R74 (REV)
(Since R42 and R74 are interlocked, after adjusting one, check the other.)

4-5 TAPE SPEED ADJUSTMENT

- Connect a frequency counter to the deck as shown in Fig. 4-10.
- Playing the mid portion of an MTT-111 test tape in FWD and REV directions, adjust the semi-fixed resistor on capstan motor so that tape speed becomes 3,000 Hz \pm 5 Hz. An insulated and non-metallic flat-head screwdriver should be used for this adjustment.
- In both FWD and REV play modes, check that the following values are obtained at the beginning and at the end of the tape.
Deviation: 3,000 Hz \pm 45 Hz
Width of deviation: Within 30 Hz

4-6 WOW AND FLUTTER CHECKS

Note: In both FWD and REV play modes, these measurements should be made at the beginning, middle and the end of the tape.

4-6-1 PLAYBACK METHOD

- Connect a wow and flutter meter to the deck as shown in Fig. 4-11.
- Load a TEAC MTT-111 test tape or equivalent and, in FWD and REV directions, play it to measure the wow and flutter value.
- Specifications are shown below.
0.05% WRMS (V-970X)
0.055% WRMS (R-919X)

4-4 リール・トルク確認及び調整

- カセット型トルク・メータによる測定値が下表の範囲内であることを確認する。

	V-970X	R-919X
テイクアップ・トルク	25~60 g・cm	25~60 g・cm (FWD/REV)
* バックテンション・トルク	0.40~0.56V	0.40~0.52V (FWD/REV)
早送りトルク (F.F.,REW共)	90~160g・cm	90~160g・cm

* バック・テンション

- DC 電圧計を MAIN PCB の TP.4 と TP.GND に接続する。
- テスト・テープ MTT-5511 の中央付近を再生し、電圧計の指示が上表の値になるよう調整する。
V-970X : R42
V-919X : R42 (FWD), R74 (REV)
(R42 と R74 は連動しているので片方を調整した場合は他方も確認すること。)

4-5 テープ速度調整

- Fig.4-10のように周波数カウンタをデッキに接続する。
- MTT-111テスト・テープの中間部をFWD,REVそれぞれで再生して、テープ速度が3,000Hz \pm 5Hzになるように キャプスタン・モータの半固定抵抗を調整する。調整には絶縁された非金属製マイナス・ドライバを使用すること。
- FWD,REVそれぞれに於て、テープの巻始めと巻終りにて下記の値が得られることを確認する。
偏差: 3,000Hz \pm 45Hz
変動巾: 30Hz 以内

4-6 ワウ・フラッタ確認

注意: FWD,REV共、テープの巻始め、中間、巻終りでそれぞれ測定する。

4-6-1 再生法

- Fig.4-11のようにワウ・フラッタ・メータをデッキに接続する。
- TEAC MTT-111テスト・テープ又は相当品を装てん後、FWD及びREVの両方向で再生しワウ・フラッタ値を測定する。
- 規格 0.05% WRMS (聴感補正) V-970X
0.055% WRMS (聴感補正) R-919X

4-6-2 RECORD/PLAYBACK METHOD

Note: When measuring with this method, the recorded section should be played back repeatedly to obtain an average value. Be careful not to read the meter for those parts of the tape in which wow and flutter components in recording and playback cancel each other.

4. Load a blank TEAC MTT-5521 test tape or equivalent and record a 3,000 Hz signal in FWD (REV) direction.
5. Rewind (fast forward) the tape to the beginning of the recorded section, and play it in the FWD (REV) direction.
6. The wow and flutter should not be more than specified.

Specification: 0.2% RMS (V-970X)
0.25% RMS (R-919X)

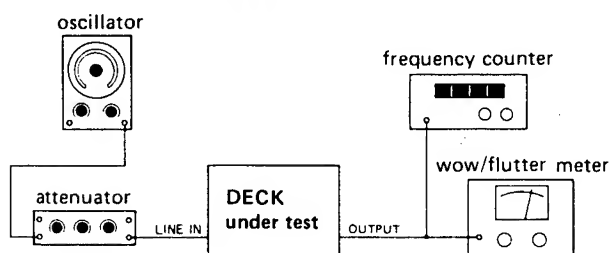


Fig. 4-10 Connection for tape speed, wow and flutter
テープ速度、ワウ・フラッタ測定接続図

4-7 LUBRICATION

Lubrication is only required when parts are replaced. For this purpose, use the oil and grease specified below.

Oil: TEAC TZ-255A motor oil (from TEAC TZ-255 oil kit), Mobil D.T.E. Oil Light, or equivalent

Grease: ORE-LUBE G1/3 or equivalent

1. Apply a drop of oil with an oil applicator to a point about 1/3 the way down the shaft (from the free end) of the flywheel, then insert the shaft into the capstan housing.
2. Apply a suitable amount of light grease to the well of the flywheel bearing.

4-6-2 録再法

注意: 本測定法の場合、録音した部分を幾度かストップ、再生を繰返し、大きく振れる平均的な値を読む。録音した時と再生した時のワウ・フラッタ成分の位相がキャンセルしたところを読まないようにする。

4. ブランク・テスト・テープTEAC MTT-5521又は相当品を装てんし、3,000Hz信号をFWD(REV)方向で録音する。
5. テープの録音した部分を巻戻してFWD(REV)方向で再生する。
6. ワウ・フラッタ値は下記の値から外れないこと。

規格: 0.2%RMS(非聴感補正)(V-970X)
0.25%RMS(非聴感補正)(R-919X)

4-7 注油

注油は部品が交換される時のみ必要です。注油には下記に明示するオイルとグリースを使用します。

オイル: TEAC TZ-255Aモータ・オイル(TEAC TZ-255オイル・キットから)
モービルD・T・Eオイル・ライト、または相当品

グリース: オア・ループG1/3、または相当品

1. フライホイール軸の先端から約1/3下った軸面へ、注油器にてオイル1滴を注油後、フライホイール軸をキャプスタン・ハウジングへそう入する。
2. 適量のグリースをフライホイール・ベアリング受けへつける。

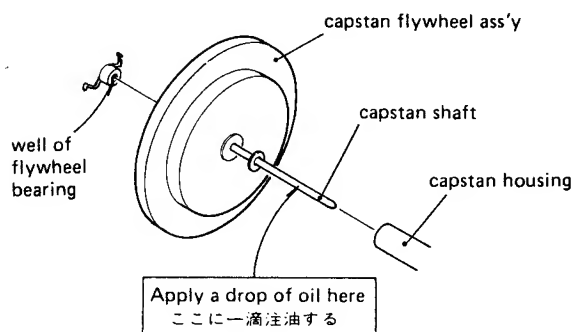


Fig. 4-11

4-8 VOLTAGE CONVERSION (FOR GENERAL EXPORT MODELS)

ALWAYS DISCONNECT THE POWER LINE CORD BEFORE MAKING THESE CHANGES.

1. Locate the voltage selector on the rear panel of the deck as shown in the illustration.
2. Using a regular screwdriver, turn the selector until the numerals corresponding to the voltage requirements of your area appear.

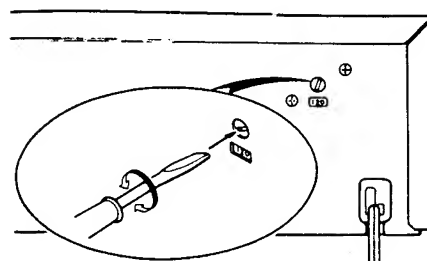


Fig. 4-12 Voltage conversion

5 ELECTRICAL CHECKS AND ADJUSTMENTS

アンプ部の確認と調整

5-1 PRECAUTIONS

1. Since this deck has an automatic tape selector, be sure to use test tapes that have tape position detecting holes.
2. Before performing adjustments and checks, clean and demagnetize the entire tape path, then check tape motion condition.
3. Make sure the deck is properly set for the voltage in your locality.
4. In general, adjustments and checks are made in the order of L-ch then R-ch.
Double REF. Nos. such as R12/R22 indicate L-ch/R-ch.
5. The AC voltmeter used in the procedures must have an input impedance of 1 M Ω or more.
6. 0 dB is referenced to 0.775 V.
7. Unless specified otherwise, adjustments and checks are made in FWD direction.

5-1 準備

1. 本機はテープ・セレクト自動検出機構になっていますので、テスト・テープは必ずテープ・ポジション検出孔のあるものを使用してください。
2. アンプ部の調整のまえに、消去ヘッド、録・再ヘッド、テープ走行部分それぞれを充分消磁し、クリーナ液で清掃してテープ走行状態を確認する。
3. 特に指定の無い限り、調整及びチェックはL-ch, R-chの順序で行って下さい。
尚R12/R22のように記されている回路番号はL-ch/R-chを示します。
4. レベル計は入力インピーダンス1M Ω 以上のものを使用して下さい。
5. 0dB=0.775V
6. 特に指示のない場合、調整及びチェックはFWD方向で行なって下さい。

5-2 TEAC TEST TAPES

- MTT-150: For Dolby level calibration
MTT-356: For playback frequency response check for CrO₂, METAL
MTT-256: For playback frequency response check for NORMAL
MTT-5571: For METAL record test
MTT-5561: For CrO₂ record test
MTT-5511: For NORMAL record test

5-2 TEACテスト・テープ

- MTT-150: ドルビー・レベル・セット用
MTT-356: CrO₂, METALテープの再生周波数特性測定用
MTT-256: NORMALテープの再生周波数特性測定用
MTT-5571: METALテープの録音系テスト用
MTT-5561: CrO₂テープの録音系テスト用
MTT-5511: NORMALテープの録音系テスト用

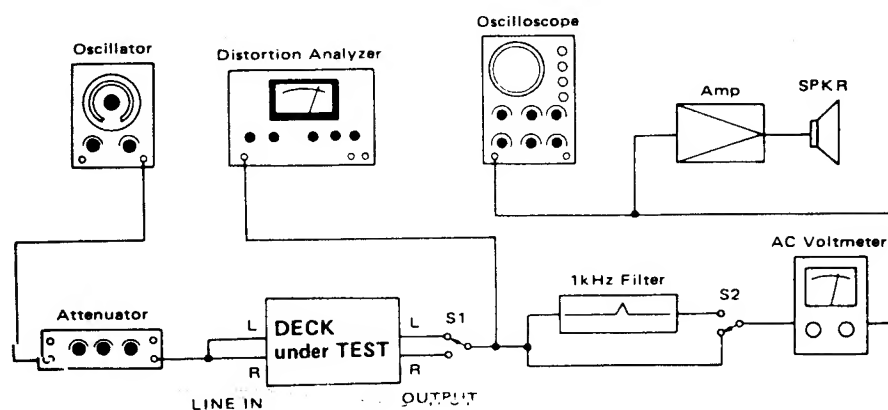
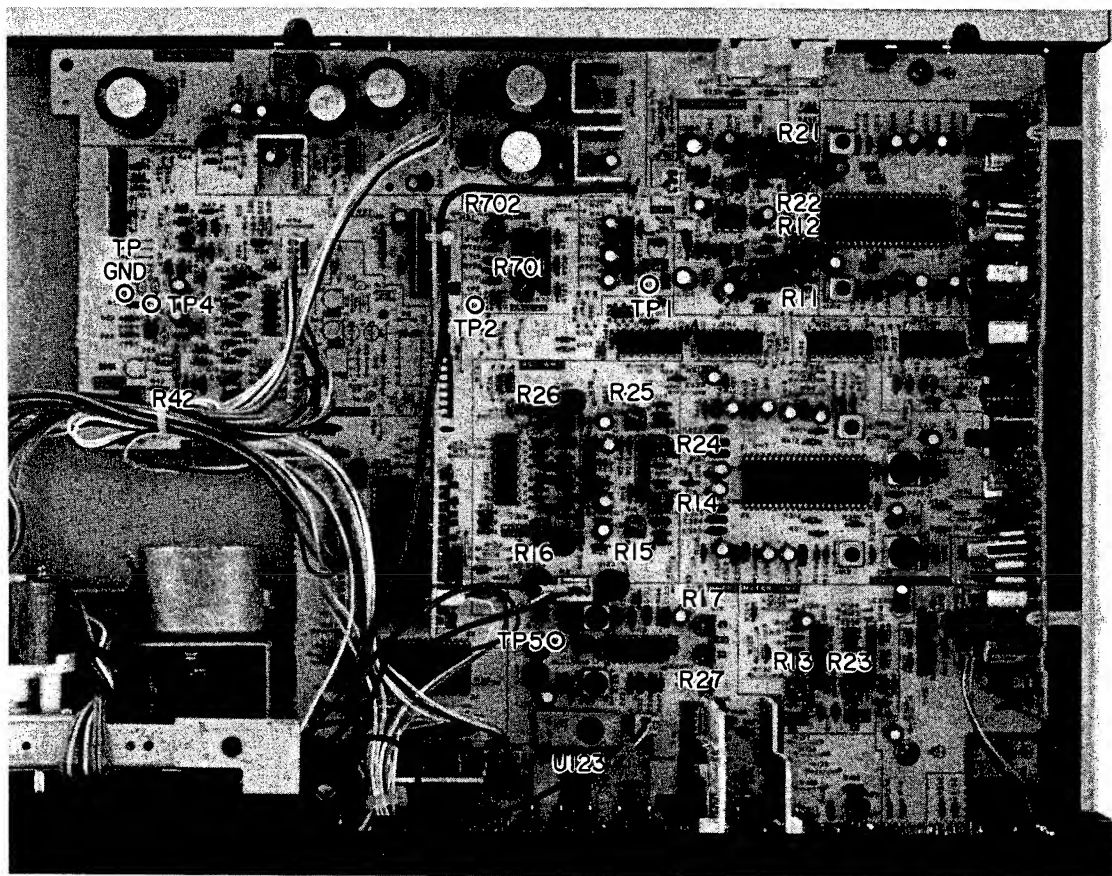


Fig. 5-1 Basic test setup 基本測定接続図



R11/R21	Playback equalization
R12/R22	Playback output level
R13/R23	Meter level
R14/R24	Record equalization
R15/R25	Record level (NORMAL)
R16/R26	Record level (METAL)

R17/R27	Record bias
R42	Back tension
R701	Built-in oscillator adj.
R702	Built-in oscillator adj.
U123	Bias oscillator adj.

Fig. 5-2 Check and adjustment points on MAIN PCB (V-970X)

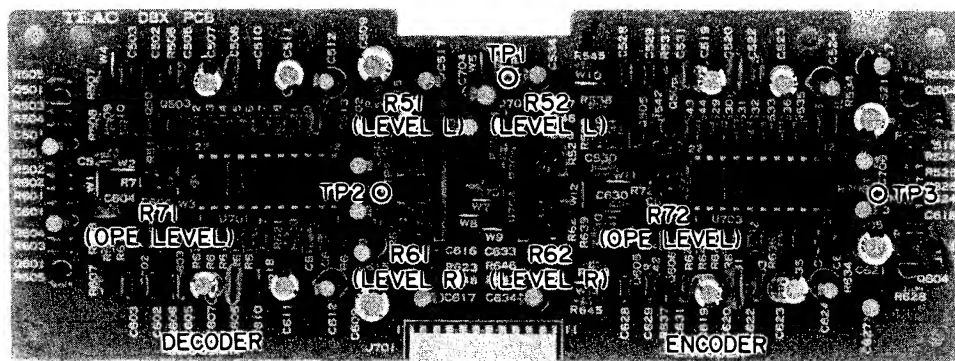
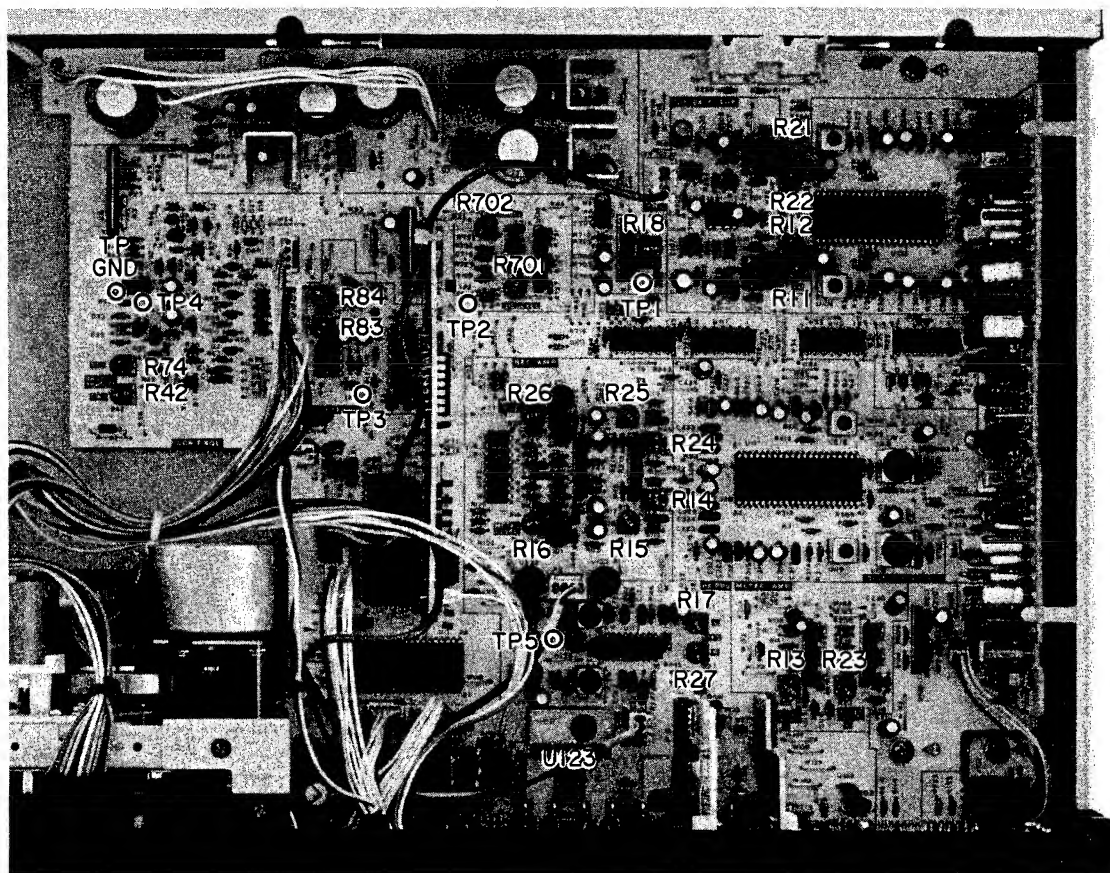


Fig. 5-3 Check and adjustment points on DBX PCB



R11/R21	Playback equalization
R12/R22	Playback output level
R13/R23	Meter level
R14/R24	Record equalization
R15/R25	Record level (NORMAL)
R16/R26	Record level (METAL)
R17/R27	Record bias
R18	CPS level

R42	Back tension (FWD)
R74	Back tension (REV)
R83	Quick sensor (FWD)
R84	Quick sensor (REV)
R701	Built-in oscillator adj.
R702	Built-in oscillator adj.
U123	Bias oscillator adj.

Fig. 5-4 Check and adjustment points on MAIN PCB (R-919X)

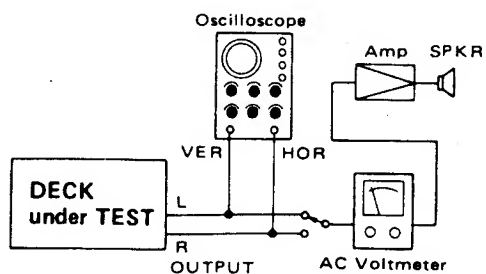


Fig. 5-5 Test setup for azimuth check
位相測定接続図

5-3. PLAYBACK PERFORMANCE 再生系

Deck settings
Mode : PLAY
NR SYSTEM SW. : OUT
MPX FILTER SW. : OUT

TEAC test tapes :

MTT-150 : For Dolby level calibration
MTT-256 : For playback frequency response check for NORMAL
MTT-356 : For playback frequency response check for METAL and CrO₂
MTT-5511 : For S/N check for NORMAL

ITEM 調整項目	SETTING 設定	INPUT SIGNAL 入力信号	ADJUST (or CHECK) 調整箇所	MEASURING POINT, RESULT 測定箇所・調整値	REMARKS 備考
1. REC・PLAY head azimuth 録・再ヘッド アジマス	Connection : Fig. 5-5 Check/adjust in FWD/REV respectively FWD, REV それぞれ チェック/ 調整	MTT-150	Check	OUTPUT (L/R) : Phase : Within 45° 位相 : 45° 以内	Refer to Fig. 5-8
		MTT-256 or MTT-356 (10 kHz)	Azimuth screws of R・P head 録・再ヘッドの アジマス調整ネジ (Fig.5-6,5-7)	OUTPUT (L/R) : Phase between L-ch and R-ch : 0° Maximum output at L- & R-ch's. L-R 間の位相差が 0° で 且つ各 ch 共最大出力	
2. Playback output level 再生出力レベル	Same as above 同上 FWD DIRECTION FWD 方向	MTT-150	R12 / R22	OUTPUT (L/R) : -5 dB (436 mV)	
	Same as above 同上 REV DIRECTION REV 方向	MTT-150	Check	OUTPUT (L/R) : -5 dB ± 1.5 dB (367 mV ~ 518 mV)	
3. Meter level setting メータ・レベル セット	Connection : Fig. 5-1	MTT-150	R13 / R23	PEAK LEVEL meter (L/R) : 0 dB (RED) lit 0 dB (赤) 点灯	
4. Playback frequency response 再生周波数特性	Connection : Fig. 5-1	MTT-256 (MTT-356)	R11 / R21	OUTPUT (L/R) : Nealy equal, output level at 351 Hz and 10 kHz 315 Hz と 10 kHz の出力がほぼ等しく なるよう調整 Standard 規格 : Fig. 5-9	
5. Playback S/N ratio 再生 S/N 比	Connection : Fig. 5-1	MTT-5511 (fully demagnetized using bulk tape eraser) (バルク・イレーサで充 分消磁されたもの)	Check	OUTPUT (L/R) : S/N 45dB min.	
				-5 dB (436 mV) is reference level 基準レベルは -5 dB (436 mV)	

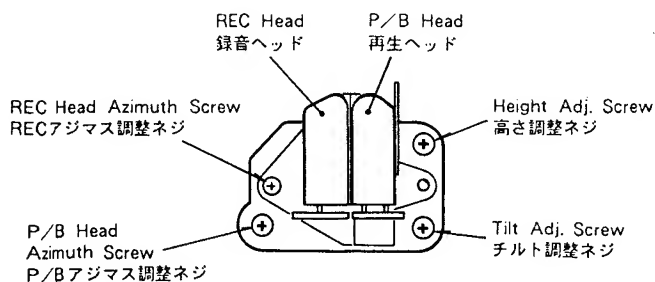


Fig. 5-6 (V-970X)

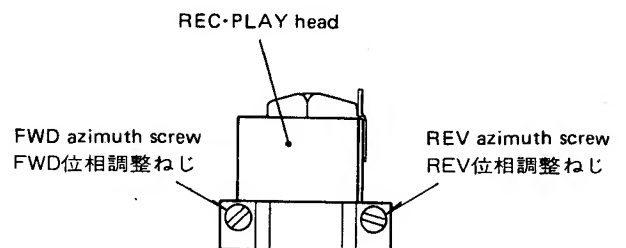


Fig. 5-7 (R-919X)

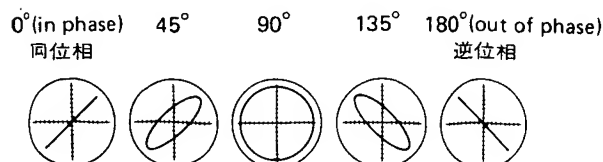


Fig. 5-8 Confirming phase relationship
位相

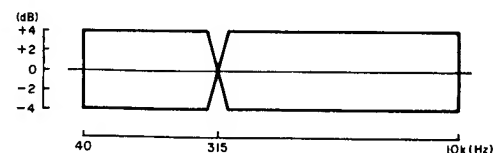


Fig. 5-9 Playback frequency response
再生周波数特性

ITEM 調整項目	SETTING 設定	INPUT SIGNAL 入力信号	ADJUST (or CHECK) 調整箇所	MEASURING POINT, RESULT 測定箇所・調整値	REMARKS 備考
6. CPS level CPS レベル	Connection : Fig.5-10, but do not connect LINE IN (L/R). LINE IN (L/R) 接続不要 Tape : MTT-150 (Use mid portion テープの中央付近を使用) Measure in each condition specified below. 下記の各条件で測定する。				
	STOP mode (▶ play indicator blinked) (▶ 再生インジケータ 点滅)	Press CPS button to get CPS display → CPS ボタンを押し CPS 表示にする	PRESS ▶▶ button → ▶▶ ボタンを押す	TP. 1 : Measure level レベルを測定する	(Level 1) (レベル1)
	"	"	PRESS ◀◀ button	TP. 1 : Measure level	(Level 2)
	"	"	◀◀ ボタンを押す	レベルを測定する	(レベル2)
	STOP mode (◀ play indicator blinked) (◀ 再生インジケータ 点滅)	Press CPS button to get CPS display → CPS ボタンを押し CPS 表示にする	PRESS ▶▶ button → ▶▶ ボタンを押す	TP. 1 : Measure level レベルを測定する	(Level 3) (レベル3)
	"	"	PRESS ◀◀ button	TP. 1 : Measure level	(Level 4)
	"	"	◀◀ ボタンを押す	レベルを測定する	(レベル4)
Adjust so that level becomes -20 dB using either of 2 conditions except 2 conditions which indicate max. and min. levels, among (Level 1) ~ (Level 4). (レベル 1) ~ (レベル 4) の中で最大及び最小レベルを示した 2 条件を除く残り 2 条件のどちらかでレベルが -20 dB になるように調整する。			R18	TP. 1 : -20 dB (77.5 mV)	

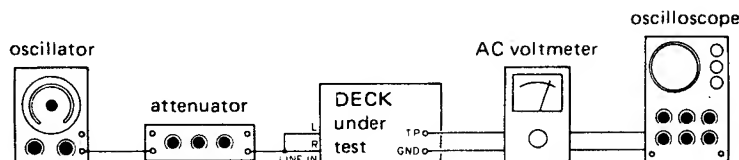


Fig. 5-10 Test setup for test point check テスト・ポイント・チェック時の接続図

5-4. MONITOR PERFORMANCE モニター系

Deck settings
 Mode : RECORD/PAUSE (Except item 11)
 MASTER REC LEVEL cont. : Maximum
 AUTO MONITOR sw. : SOURCE
 NR SYSTEM sw. : OUT
 MPX FILTER sw. : OUT

ITEM 調整項目	SETTING 設定	INPUT SIGNAL 入力信号	ADJUST (or CHECK) 調整箇所	MEASURING POINT, RESULT 測定箇所・調整値	REMARKS 備考
7. Min. LINE input level ライン 最小入力レベル	Connection : Fig.5-1	LINE IN (L/R) : 400 Hz / -19 dB (86.9 mV)	Check	OUTPUT (L/R) : -5 dB \pm 3 dB (308 mV \sim 615 mV)	
8. Specified LINE input level LINE 規定入力 レベル	Connection : Fig.5-1	LINE IN (L/R) : 400Hz/-9dB (275mV)	PRESET cont. (L / R)	OUTPUT (L/R) : -10 dB (245 mV)	
		After adjusting, do not move the PRESET cont. (L/R). (Specific position) 調整後は PRESET つまみを動かさないこと。			
9. MEter level メータ・レベル	Connection : Fig.5-1	LINE IN (L/R) : 400Hz/-9dB (275mV)	Check	PEAK LEVEL meter (L/R) : 0 dB (RED)	
10. PHONES output level PHONES 出力 レベル	Connection : Fig. 5-11 PHONES LEVEL cont. : Max.	LINE IN (L/R) : 400Hz/-9dB (275mV)	Check	PHONES : At each channel 各チャネルで -15 dB \pm 3 dB (97.5 mV \sim 195 mV)	8 Ω load
11. CD level check CD レベル・チェック	Connection : Fig.5-1 STOP mode CD LEVEL CHECK sw. : Set	LINE IN (L/R) : 400 Hz / -12 dB (195 mV)	Check	LED : lit 点灯 PEAK LEVEL meter (L/R) : 0 dB	

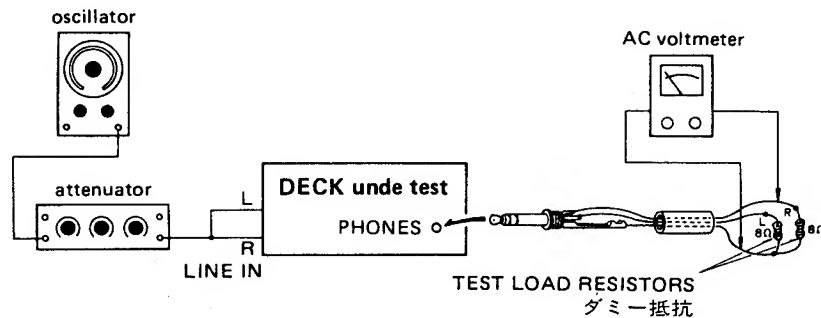


Fig. 5-11 Test setup for PHONES check ホーン出力測定接続図

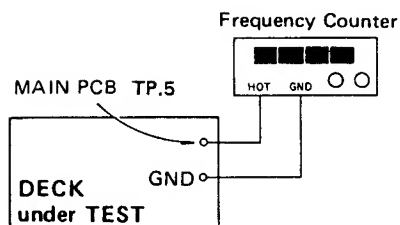


Fig. 5-12 Test setup for bias osc. frequency adjustment
 バイアス発振周波数調整用接続図

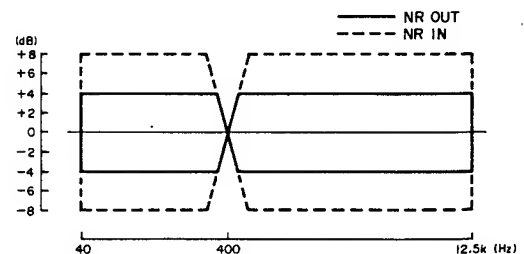


Fig. 5-13 Overall frequency response (NR OUT)
 録再周波数特性

5-5. RECORDING PERFORMANCE 録音系

Deck settings

MASTER REC LEVEL cont. : Max

AUTO MONITOR sw. : TAPE

NR SYSTEM sw. : OUT

MPX FILTER sw. : OUT

BIAS (L / R) cont. : Center position. 中央位置

LEVEL (L / R) cont. : Center position. 中央位置

TEAC recording test tapes

MTT-5571 : For METAL

MTT-5561 : For CrO₂

MTT-5511 : For NORMAL

ITEM 調整項目	SETTING 設定	INPUT SIGNAL 入力信号	ADJUST (or CHECK) 調整箇所	MEASURING POINT, RESULT 測定箇所・調整値	REMARKS 備考
12. Bias osc frequency バイアス 発振周波数	Connection : Fig. 5-12 Tape : MTT-5571 Mode : FWD REC/ PAUSE & REV REC/PAUSE	---	U123	TP. 5 : 100 kHz \pm 2k kHz	
13. Built-in oscillator adjustment 内部発振器調整	Mode : REC/PAUSE Tape : MTT-5571 CAL START sw. : ON (LEVEL LED : lit 点灯)	---	R701	TP. 2 : 8.5 kHz / -5.5 dB (411 mV)	Oscillating frequency 発振周波数 315 Hz and 8.5 kHz
	" CAL START sw. : ON (BIAS LED : lit 点灯)	---	R702	TP. 2 : 315 Hz / -35.5 dB (13 mV)	
14. Record EQ 録音 EQ	---	---	R14 / R24	Set to center position センター位置にする	
15. Recored bias -1 仮バイアス セット	Connection : Fig. 5-1 TAPE : MTT-5571 BIAS cont. : Center LEVEL cont. : Center	LINE IN (L / R) : 400 Hz and 10 kHz alternately / 交互信号 / -42 dB (6.15 mV)	R17 / R27	OUTPUT (L / R) : Equal output level (record and playback) between 400Hz and 10 kHz. 400 Hz と 10 kHz の録再出力が等しくな ること	
16. Record azimuth 録音アジマス (V-970X)	"	LINE IN (L / R) : 10 kHz / -42 dB (6.15 mV)	Azimuth screw of REC head 録音ヘッドのアジ マス調整ネジ (Fig. 5-6)	OUTPUT (L / R) : Phase between L-ch/R-ch : 0° L - R 間の位相差が 0° で 且つ各チャンネル共最大出力	Refer to Fig. 5-8
17. Recored bias -2 バイアス・セット	Connection : Fig. 5-1 TAPE : MTT-5511 BIAS cont. : Center LEVEL cont. : Center	LINE IN (L / R) : 400 Hz and 10 kHz alternately / 交互信号 / -42 dB (6.15 mV)	Check (R17 / R27)	OUTPUT (L / R) : Equal output level (record and playback) between 400Hz and 10 kHz. 400 Hz と 10 kHz の録再出力が等しくな ること	
18. Record level 録音レベル	Connection : Fig. 5-1 TAPE : MTT-5511	LINE IN (L / R) : 400 Hz / -12 dB (195 mV)	R15 / R25	OUTPUT (L / R) : Output level (record and playback) 録再出力 -8 dB (300 mV)	
	Connection : Fig. 5-1 TAPE : MTT-5571		R16 / R26		
19. Total harmonic distortion 総合歪率	Connection : Fig. 5-1 TAPE : MTT-5571 TAPE : MTT-5561	LINE IN (L / R) : 400 Hz / -12 dB (195 mV)	Check	OUTPUT (L / R) : 2.0 % or less 2.0 % 以下	
	Connection : Fig. 5-1 TAPE : MTT-5511			OUTPUT (L / R) : 2.5 % or less 2.5 % 以下	

ITEM 調整項目	SETTING 設定	INPUT SIGNAL 入力信号	ADJUST (or CHECK) 調整箇所	MEASURING POINT, RESULT 測定箇所・調整値	REMARKS 備考
20. Built-in oscillator (BIAS, LEVEL check)	TAPE : MTT-5511 Mode : REC / PAUSE CAL START SW. : ON LEVEL cont. (L/R) : Fully "-" position then fully "+" position "- " 方向一杯, 次に "+" 方向 一杯	---	Check	OUTPUT (L/R) : Measure output level at "-" portion then at "+" portion. 出力レベルを "- " 方向と "+" 方向で それぞれ測定する Variation between "-" and "+" portions "- " と "+" 間のレベル変化 4 dB or more 4 dB 以上	
	TAPE : MTT-5511 Mode : REC / PAUSE CAL START SW. : ON BIAS cont. (L/R) : Fully "-" position then fully "+" position "- " 方向一杯, 次に "+" 方向 一杯	---	Check	OUTPUT (L/R) : Measure output level at "-" portion then at "+" portion. 出力レベルを "- " 方向と "+" 方向で それぞれ測定する Variation between "-" and "+" portions "- " と "+" 間のレベル変化 5 dB or more 5 dB 以上	
21. Overall frequency response 録再周波数特性	Connection : Fig. 5-1 TAPE : MTT-5571 TAPE : MTT-5561 TAPE : MTT-5511	LINE IN (L/R) : 40 Hz ~ 12.5 kHz / -42 dB (6.15 mV)	Check	OUTPUT (L/R) : Standard Fig.5-13	
22. Overall S/N ratio 総合 S/N 比	Connection : Fig. 5-1 TAPE : MTT-5571 TAPE : MTT-5561 TAPE : MTT-5511	---	Check	OUTPUT (L/R) : METAL 45 dB min. CrO ₂ 45 dB min. NORMAL 44 dB min.	
				400 Hz / -9 dB (275 mV) is the reference level. 基準レベルは 400 Hz / -9 dB (275 mV)	
23. Erase efficiency 消去効果	Connection : Fig. 5-1 but engage 1-kHz filter 1-kHz フィルター使用 TAPE : MTT-5571	LINE IN (L/R) : 1 kHz / +1 dB (0.869 V)	Check	OUTPUT (L/R) : 65 dB min. ratio	
	Record a 1 kHz signal. Erase the latter half of the recording. Rewind and play to find the difference between the 1 kHz portion and the erased portion. 録音部分を再生した時のレベルを基準レベルとし、録音部分を消去した時の出力レベルとの差を測定。				
24. REC MUTE function REC MUTE 効果	Same as above 同上	Same as above 同上	Check	OUTPUT (L/R) : 65 dB min. ratio	
	Record a 1-kHz signal. Push REC MUTE button midway. Rewind and play to find the difference between the 1-kHz portion and the "rec mute" portion. 1 kHz 信号を録音し、途中で REC MUTE 鈕を押して無信号録音部分を作る。 このテープを再生し、1 kHz 部分と無信号部分との出力レベル差を測定。				
25. Channel separation チャンネル・ セパレーション	Same as above 同上	LINE IN : L ch 1-kHz/-9dB (275 mV) R ch No signal 無信号	Check	OUTPUT (R) : 30 dB min. ratio	
	Set the deck to record mode. Rewind and play to find the difference between the 1-kHz recorded portion (L-ch) and " no signal " portion (R-ch). 録音後、再生して 1-kHz 録音部分 (L-ch) と無信号録音部分 (R-ch) との出力レベル差を測定。				
	Change the above connection and check reverse operation also. L-ch と R-ch を入れ替えた場合についてもチェックすること。				

ITEM 調整項目	SETTING 設定	INPUT SIGNAL 入力信号	ADJUST (or CHECK) 調整箇所	MEASURING POINT, RESULT 測定箇所・調整値	REMARKS 備考
26. Adjacent track crosstalk トラック間 クロストーク	Connection : Fig. 5-1 but do not connect LINE (L) and OUTPUT (L) L ch の入出力の接続不要	LINE IN : L ch : No signal 無信号 R ch : 125Hz/-9dB (275mV)	Check	OUTPUT (R) : 40 dB min. ratio	
Record a 125-Hz signal on R-ch track and note output level. Invert tape4 and play R-ch track. Check leakage level against the output reference of previously recorded portion. R-ch トラックに 125 Hz を録音し、その再生出力を基準レベルとする。 次にテープを反転し、再生した時の R-ch 出力レベルと基準レベルとの差を測定。					
27. dbx adjustment	Connection : Fig. 5-1 NR SYSTEM : dbx	LINE IN (L/R) : 1 kHz / -9 dB (275 mV)	R71 (Decoder) R72 (Encoder)	Between TP.2 & TP.1 : 15 mV DC Between TP.3 & TP.1 : 15 mV DC	
28. dbx decoder level	Mode : PLAY	MTT-150	R51 / R61	OUTPUT (L/R) : +0.5 dB (820 mV)	
29. DBX encoder level	Tape : MTT-5511 Mode : REC/PLAY	LINE IN (L/R) : 1 kHz / -12 dB (195 mV)	R52 / R62	OUTPUT (L/R) : -8 dB (308 mV)	

PARTS LIST SECTION

NOTES:

1. As regards the resistors and capacitors, refer to the circuit diagrams and the PCB ass'y drawings included in this brochure.
2. Parts marked with Δ this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.

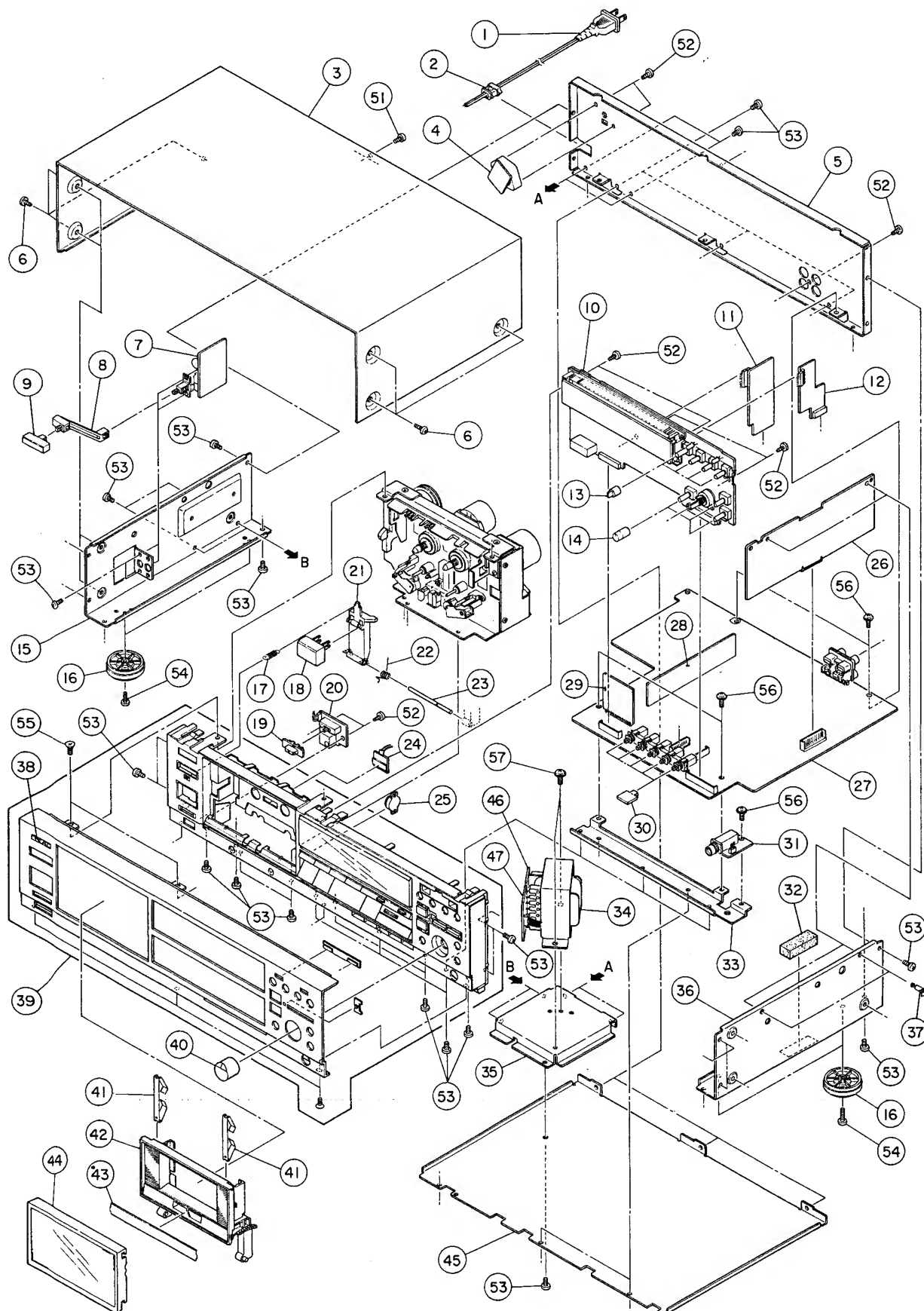
注 意

1. 標準の抵抗, コンデンサーは省略してあります。回路図及び基板図を参照してください。
2. Δ 印は安全規格重要部品です。交換するときは必ずティアック指定の部品を使用して下さい。

6 EXPLODED VIEWS AND PARTS LIST

分解図とパーツ・リスト

EXPLODED VIEW-1 (V-970X)



EXPLODED VIEW-I

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
I- 1	Δ*5128027000	CORD,AC [J]	
	Δ*5128047000	CORD,AC [UK]	
	Δ*5350008300	CORD,AC [A]	
	Δ*5350010700	CORD,AC SPT-2 [US,C]	
	Δ*5350010800	CORD,AC SPT-1 [GE]	
	Δ*5350011700	CORD,AC CLASS-2 [E]	
I- 2	*5317003400	BUSHING 227I	Ref. pages 43 & 49
I- 3	*5800956700	COVER, TOP	
I- 4	*5200225000	VOL.SELECTOR PCB ASSY [GE]	
I- 5	*5800953700	PANEL, REAR;C	
I- 6	*5800612400	SCREW,M3X8 BLK	Ref. pages 43 & 49
I- 7	*5200224900	POWER SW PCB ASSY [J,US,C,GE]	
	*5200224910	POWER SW PCB ASSY [E,UK,A]	
I- 8	*5800953600	ROD,POWER BUTTON	
I- 9	5800957400	BUTTON,POWER;E	
I-10	*5200224700	DISPLAY PCB ASSY	Ref. pages 41 & 46
I-11	*5200224300	JOINT PCB(A)ASSY	
I-12	*5200224400	JOINT PCB(B)ASSY	
I-13	5800952700	KNOB,VR(A)	
I-14	5800952800	KNOB,VR(B)	
I-15	*5800809402	CHASSIS,L	
I-16	*5800954400	FOOT ASSY	
I-17	*5791234130	SPRING,2341-30	
I-18	5800957500	BUTTON,EJECT;C	
I-19	5800961500	KNOB,A	
I-20	*5200225200	TIMER SW PCB ASSY	Ref. pages 43 & 49
I-21	*5800740701	EJECT ARM	
I-22	*5800775200	SPRING,HOLDER;B	
I-23	*5800744500	SHAFT,HOLDER	
I-24	5225015100	LED,SLF301C	
I-25	5800620500	DAMPER ASSY	Ref. pages 42 & 49
I-26	*5200184001	DBX PCB ASSY	
I-27	*5200224200	MIAN PCB ASSY	
I-28	*5200224800	JOINT PCB(C)ASSY	
I-29	*5200230500	JOINT PCB(D)ASSY	
I-30	5800953200	BUTTON,PUSH	Ref. pages 43 & 49
I-31	*5200225300	JACK PCB ASSY	
I-32	*5800954300	CUSHION,PCB	
I-33		BRACKET,PCB	
I-34	Δ 5320045000	TRANSFORMER,POWER [J]	
	Δ 5320045100	TRANSFORMER,POWER [US,C]	
	Δ 5320045200	TRANSFORMER,POWER [GE]	
	Δ 5320045300	TRANSFORMER,POWER [E,UK,A]	
I-35	*5800954200	BRACKET,TRANSFORMER	
I-36		CHASSIS,R	
I-37	*5787005400	SUPPORT,LSR-14R	
I-38	*5720175500	EMBLEM,TEAC	
I-39	*5800950401	ESCTCHEON ASSY,FRONT;(B)	
I-40	5800952900	KNOB ASSY,VR(C)	
I-41	5800603801	SPRING,CASS.PRESS.	
I-42	*5800739202	HOLDER,CASSETTE	
I-43	*5800953400	PLATE,COVER;B	
I-44	5800739301	COVER,CASSETTE	
I-45	*5800809601	COVER,BOTTOM	
I-46	*5210225100	TRANS. PCB(I)	

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]:JAPAN

Parts marked with *require longer delivery time.

EXPLODED VIEW-I

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
I-47	*5210224500	TRANS. PCB(2)	
I-51	*5783613008	SCREW,C TITE M3X8(BLK NI)	
I-52	*5783543008	SCREW,BIND P TITE M3X8	
I-53	*5783693006	SCREW,BIND S TITE M3X6	
I-54	*5783693008	SCREW,BIND M3X8(BLK NI)	
I-55	*5783043008	SCREW,FLAT S TITE M3X8	
I-56	*5783073006	SCREW,CUP S TYTE M3X6	
I-57	*5783074008	SCREW,CUP S TITE M4X8	

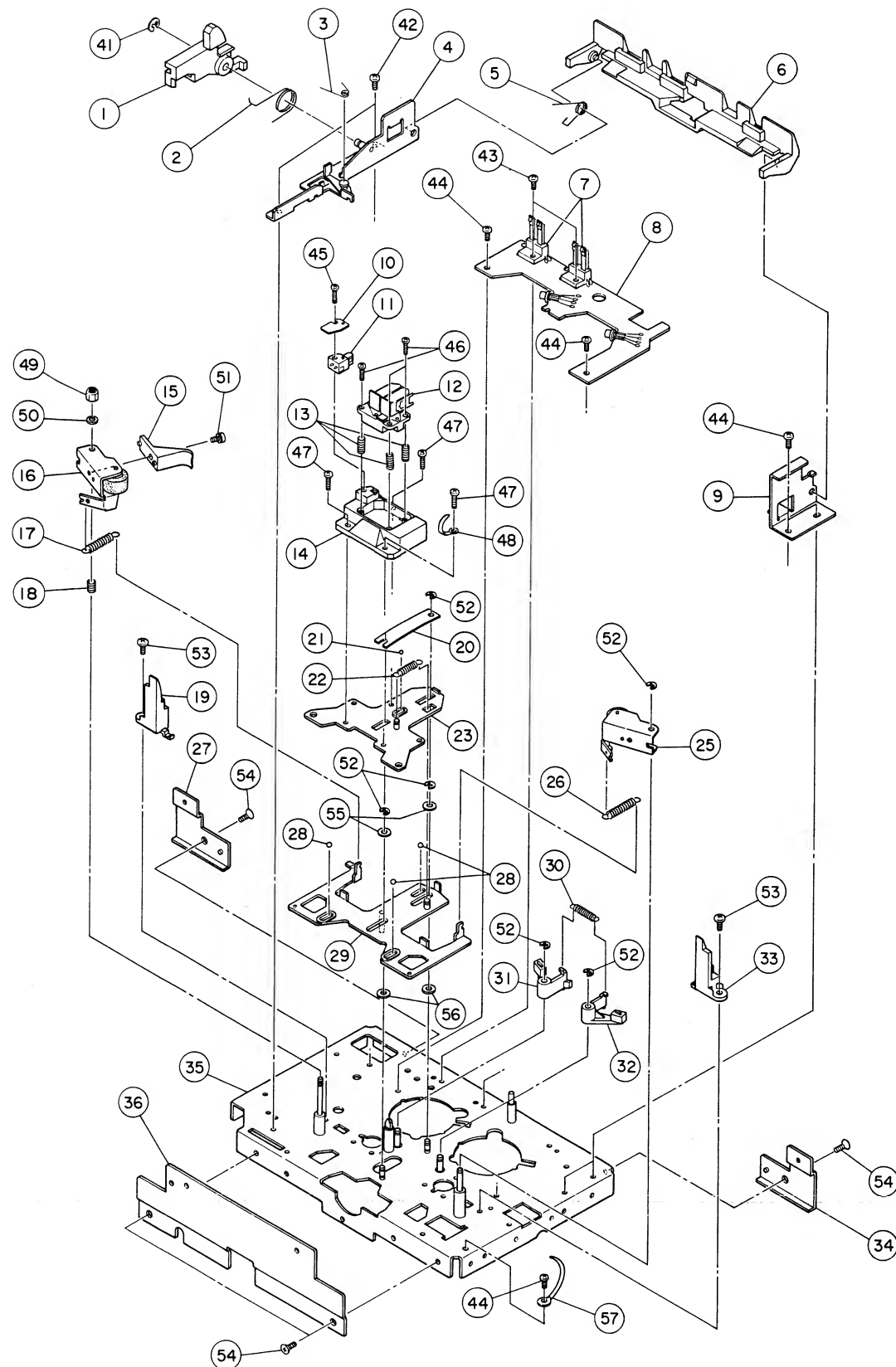
INCLUDED ACCESSORIES

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
	*5700093900	OWNER'S MANUAL [J]	
	*5700094000	OWNER'S MANUAL [EXCEPT J]	
	*5350011600	CORD,IN-OUT 1.0M	
	*5800954500	BOARD,SIDE;L [J,MIL]	
	*5800954600	BOARD,SIDE;R [J,MIL]	
	*5800954700	SCREW ASSY,BOARD [J,MIL]	
	*5744065600	REMOTE CONTROL RC-311	
	*5347003100	BATTERY(SUM-3) [J]	
	*5347003200	BATTERY(SUM-3) [EXCEPT J]	

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]:JAPAN [MIL]:US MILITARY

Parts marked with *require longer delivery time.

EXPLODED VIEW-2 (V-970X)

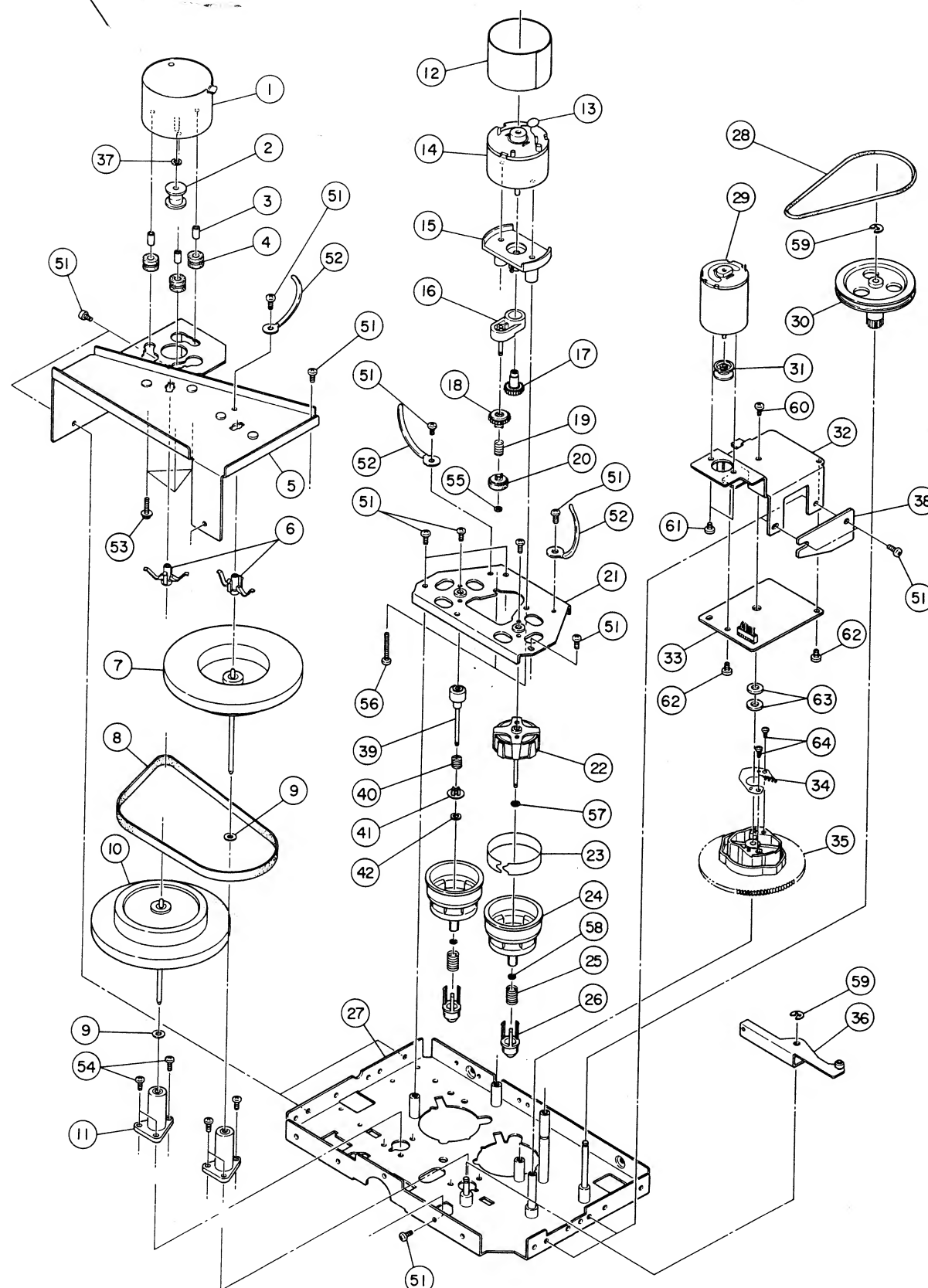


EXPLODED VIEW-2

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2- 1	*5800768700	LEVER,CASSETTE LOCK	Ref. pages 43 & 49
2- 2	*5800616300	SPRING,LOCK LEVER	
2- 3	*5800616400	SPRING,EJECT PREVENTING	
2- 4	*5800731700	BRACKET ASSY,SW ARM;L	
2- 5	*5800755800	SPRING,PRESSURE ARM	
2- 6	*5800595602	ARM,SW PRESSURE	
2- 7	5301753500	SW.,LEAF LSA-2125	
2- 8	*5200182400	SENSOR PCB ASSY	
2- 9	*5800594000	BRACKET,R	
2-10	*5800955100	COVER,E. HEAD	
2-11	5378904900	HEAD,ERASE HAJWB3507A	
2-12	5800931401	HEAD ASSY	
2-13	*5800931300	SPRING,HEAD	
2-14	*5800955900	BRACKET,HEAD	
2-15	5800956000	GUIDE,TAPE	
2-16	5800955200	ARM ASSY,P.ROLLER;L	
2-17	5800955700	SPRING,PINCH ROLLER;L	
2-18	*5800418400	SPRING,PINCH ROLLER ARM	
2-19	5800595701	GUIDE,CASSETTE;L	
2-20	*5800595500	SPRING,PRESSURE	
2-21	*5540055000	STEEL BALL 20	
2-22	*5801005700	SPRING,HEAD BASE	
2-23	*5800957200	BASE ASSY,HEAD	
2-24	VACANT		
2-25	5800955400	ARM ASSY,PINCH ROLLER;R	
2-26	5800955800	SPRING,PINCH ROLLER;R	
2-27		BRACKET,MECHANISM;B	
2-28	*5540056000	STEEL BALL 30	
2-29	*5800618202	SLIDER ASSY	
2-30	*5800737200	SPRING,LOCK	
2-31	*5800620000	ARM ASSY,BRAKE;L	
2-32	*5800619900	ARM ASSY,BRAKE;R	
2-33	5800595801	GUIDE,CASSETTE;R	
2-34		BRACKET,MECHANISM,A	
2-35		CHASSIS ASSY,MECHANISM;D	
2-36	*5800954000	BRACKET,MECHANISM;C	
2-41	*5786003000	E RING E-3	
2-42	*5783032604	SCREW,BIND S TITE M2.6X4	
2-43	*5783032005	SCREW,BIND S TITE M2X5	
2-44	*5783002605	SCREW,PAN S TITE M2.6X5	
2-45	*5780022008	SCREW,BIND M2X8 (BLK NI)	
2-46	*5780112008	SCREW,PAN M2X8 (NI)	
2-47	*5780002005	SCREW,BIND M2X5	
2-48	*5581062000	HARNES CRIP,E	
2-49	*5781952600	NUT,LOCK M2.6	
2-50	*5800978900	WASHER,2.9X5X0.8T	
2-51	*5780132605	SCREW, M2.6 X 5	
2-52	*5786002000	E RING E-2	
2-53	*5783032606	SCREW,BIND S TITE M2.6X6	
2-54	*5783043006	SCREW,FLAT S TITE M3X6	
2-55	*5785313100	WASHER,POLY 3X6X0.25T	
2-56	*5785313000	WASHER,POLY 3X6X0.5T	
2-57	*5786713000	CLAMPER,CORD 3.0X9.1X50	

Parts marked with *require longer delivery time.

EXPLODED VIEW-3 (V-970X)

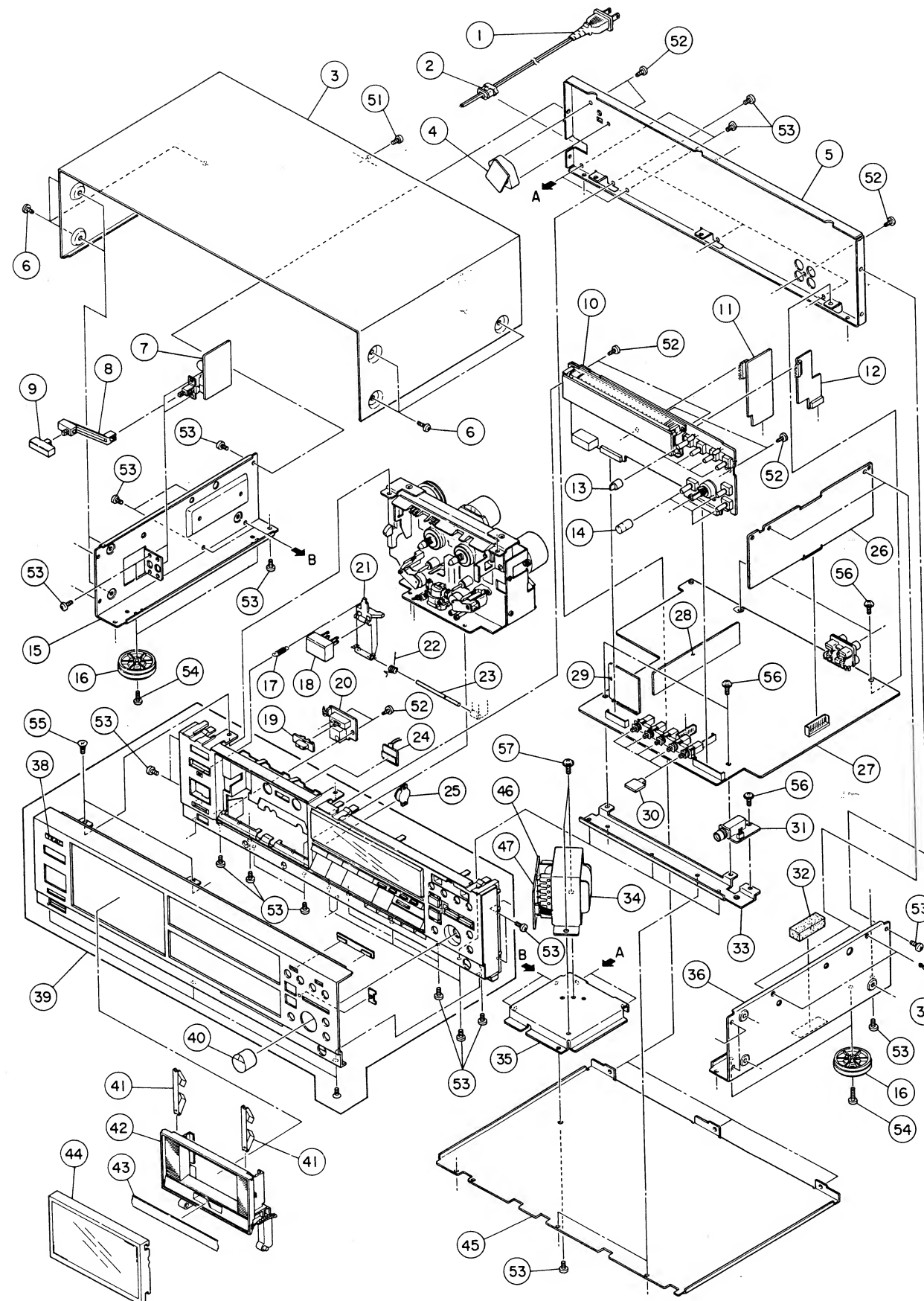


EXPLODED VIEW-3

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3-1	5370007800	MOTOR, C.DC	
3-2	5801006500	PULLEY, CAP. MOTOR	
3-3	*5785603050	SPACER 3.0X5.0MM	
3-4	*5534537000	CUSHION, RUBBER	
3-5	*5800956200	BRACKET, FLYWHEEL	
3-6	*5800236900	BEARING, THRUST	
3-7	5800732200	CAPSTAN ASSY, L.	
3-8	5534810000	BELT, CAPSTAN	
3-9	*5800735300	WASHER, THRUST	
3-10	5800732300	CAPSTAN ASSY, R.	
3-11	5800732100	HOLDER ASSY, METAL	
3-12	*5800235900	PLATE, SHIELD	
3-13	*5173395000	C., CERAMIC 0.047MF 50V	
3-14	5370002502	MOTOR, R.DC.	
3-15	*5800732602	HOLDER, MOTOR	
3-16	5800461500	ARM ASSY, PULLEY	
3-17	5800736000	PULLEY, GEAR; A	
3-18	5800461600	PULLEY B ASSY, GEAR	
3-19	*5800430200	SPRING, PULLEY	
3-20	5800430302	IDLER ASSY	
3-21	*5800731600	BRACKET, REEL ASSY	
3-22	5347003300	SHAFT ASSY, COIL	
3-23	*5800731400	RING, HYSTERESIS	
3-24	5800731500	TABLE ASSY, REEL	
3-25	*5800231300	SPRING, REEL	
3-26	*5800236501	RING, DRIVE	
3-27		CHASSIS ASSY, MECHANISM; D	
3-28	5800419200	BELT	
3-29	5370005100	MOTOR, CAPSTAN	
3-30	5800597001	PULLEY, REDUCTION	
3-31	5800123301	PULLEY, V	
3-32	*5800732400	BRACKET, MOTOR	
3-33	*5210152401	PCB, CAM	
3-34	*5800595300	PLATE, CONTACT	
3-35	*5800597401	CAM, CONTROL	
3-36	*5800620701	ARM ASSY, HEAD BASE	
3-37	*5801008000	WASHER, OIL	
3-38	*5801006400	STOPPER, E	
3-39	*5800917400	SHAFT ASSY, REEL	
3-40	*5800481901	SPRING, B TENSION	
3-41	*5800231500	HOLDER, SPRING	
3-42	*5800539800	WASHER, 1.7 X 4 X 0.3T	
3-51	*5783002605	SCREW, PAN S TITE M2.6X5	
3-52	*5786713000	CLAMPER, CORD 3.0X9.1X50	
3-53	*5780142608	SCREW, PAN SEMS B M2.6X8	
3-54	*5783002606	SCREW, PAN S TITE M2.6X6	
3-55	*5785331500	WASHER, POLY 1.5X4X0.5T	
3-56	*5780002617	SCREW, BIND M2.6X17	
3-57	*5785301100	WASHER, POLY 1.5X4X0.25T	
3-58	*5785331100	WASHER, POLY 1.2X3.6X0.5T	
3-59	*5786002000	E RING E-2	
3-60	*5780002004	SCREW, BIND M2X4	
3-61	*5780002603	SCREW, BIND M2.6X3	
3-62	*5783032604	SCREW, BIND S TITE M2.6X4	
3-63	*5785024800	WASHER, FLAT 4.3X8X0.8T	
3-64	*5781112004	SCREW BIND TAPPING M2X4	

Parts marked with *require longer delivery time.

EXPLODED VIEW-4 (R-919X)



EXPLODED VIEW-4

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4-1	Δ*5128027000 Δ*5128047000 Δ*5350008300 Δ*5350010700 Δ*5350010800 Δ*5350011700	CORD, AC [J] CORD, AC [UK] CORD, AC [A] CORD, AC [US, C] CORD, AC [EX] SPT-1 CORD, AC [E] CLASS-2	
4-2	Δ*5317003400	BUSHING, 2271	
4-3	*5800956700	COVER, TOP	Ref. pages 43 & 49
4-4	*5200225000	VOL. SELECTOR PCB ASSY	
4-5	*5800953700	PANEL, REAR, C	
4-6	*5800612400	SCREW, M3X8 BLK	Ref. pages 43 & 49
4-7	*5200224900 *5200224910	POWER SW PCB ASSY [J, US, C, GE] POWER SW PCB ASSY [E, UK, A]	Ref. pages 43 & 49
4-8	*5800953600	ROD, POWER BUTTON	
4-9	5800957400	BUTTON E, POWER	
4-10	*5200224710	DISPLAY PCB ASSY	Ref. pages 41 & 48
4-11	*5200224300	JOINT PCB(A) ASSY	Ref. pages 44 & 49
4-12	*5200224400	JOINT PCB(B) ASSY	Ref. pages 44 & 49
4-13	5800952700	KNOB, VR; A	
4-14	5800952800	KNOB, VR; B	
4-15		CHASSIS, L	
4-16	*5800954400	FOOT ASSY	
4-17	*5791234130	SPRING, 2341-30	
4-18	5800957400	BUTTON, EJECT; C	
4-19	5800961500	KNOB, A	Ref. pages 43 & 49
4-20	*5200225200	TIMER SW PCB ASSY	
4-21	*5800740701	ARM, EJECT	
4-22	*5800775200	SPRING, HOLDER; B	
4-23	*5800744500	SHAFT, HOLDER	
4-24	5225015100	LED, SLF301C	
4-25	5800620500	DAMPER ASSY	Ref. pages 41 & 49
4-26	*5200184001	DBX PCB ASSY	Ref. pages 39 & 47
4-27	*5200224210	MIAN PCB ASSY	Ref. pages 40 & 48
4-28	*5200224800	JOINT PCB(C) ASSY	Ref. pages 40 & 48
4-29	*5200230510	JOINT PCB(D) ASSY	
4-30	5800953200	BUTTON, PUSH	Ref. pages 43 & 49
4-31	*5200225300	JACK PCB ASSY	
4-32	*5800954300	CUSHION, PCB	
4-33	*5800954100	BRACKET, PCB	
4-34	Δ 5320045000 Δ 5320045100 Δ 5320045200 Δ 5320045300	TRANS., POWER [J] TRANS., POWER [US, C] TRANS., POWER [GE] TRANS., POWER [E, UK, A]	
4-35		BRACKET, TRANSFORMER	
4-36		CHASSIS, R	
4-37	*5787005400	SUPPORT, PCB SR-14R	
4-38	*5720175500	EMBLEM, TEAC	
4-39	*5800950301	ESCTCHEON ASSY, FRONT; A	
4-40	5800952900	KNOB ASSY, VR; C	
4-41	*5800603801	SPRING, CASSETTE PRESSURE	
4-42	*5800739202	HOLDER, CASSETTE	
4-43	*5800953300	PLATE, COVER; A	
4-44	5800739301	COVER, CASSETTE	
4-45	*5800809601	COVER, BOTTOM	
4-46	*5210225100	TRANS PCB(I)	

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]:JAPAN

Parts marked with *require longer delivery time.

EXPLODED VIEW-4

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4-47	*5210224500	TRANS PCB(2)	
4-51	*5783613008	SCREW,C TITE M3X8 BLK NI	
4-52	*5783543008	SCREW,BIND P TITE M3X8	
4-53	*5783693006	SCREW,BIND S TITE M3X6	
4-54	*5783693008	SCREW,BIND S TITE M3X8	
4-55	*5783043008	SCREW,FLAT S TITE M3X8	
4-56	*5783073006	SCREW,PAN CUP S TITE M3X6	
4-57	*5783074008	SCREW,PAN CUP S TITE M4X8	

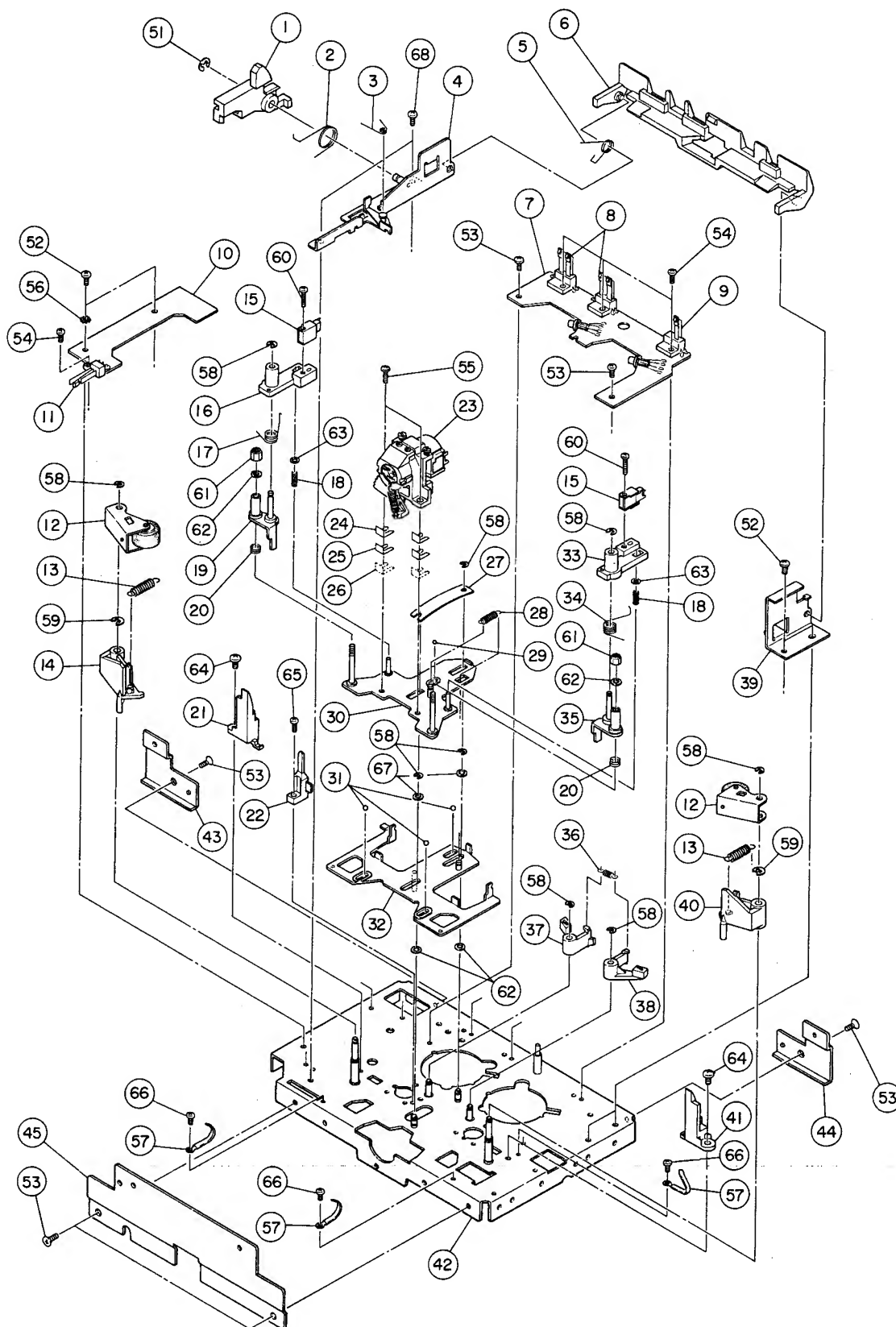
INCLUDED ACCESSORIES

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
	*5700093900	OWNER'S MANUAL [R-919X] [J]	
	*5700094000	OWNER'S MANUAL [R-919X] [EXCEPT J]	
	*5350011600	CORD,IN-OUT 1.0M	
	*5744065600	REMOTE CONT. UNIT RC-311	
	*5347003100	BATTERY(SUM-3) [J]	
	*5347003200	BATTERY(SUM-30 [EXCEPT J]	

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]:JAPAN

Parts marked with *require longer delivery time.

EXPLODED VIEW-5 (R-919X)



EXPLODED VIEW-5

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5- 1	*5800768700	LEVER,CASSETTE LOCK	Ref. pages 44 & 49
5- 2	*5800616300	SPRING,LOCK LEVER	
5- 3	*5800616400	SPRING,EJECT PREVENTING	
5- 4	*5800731700	BRCKET ASSY,SW ARM;L	
5- 5	*5800755800	SPRING,PRESSURE ARM	
5- 6	*5800595602	ARM,SW PRESSURE	
5- 7	*5200182400	SENSOR PCB ASSY	
5- 8	5301753500	SWITCH,LEAF LSA-2125	
5- 9	5301753600	SWITCH,LEAF LSA-1125-7	
5-10	*5210182500	JOINT PCB	
5-11	5301753800	SWITCH,LEAF	
5-12	5800618900	PINCH ROLLER ASSY	
5-13	*5800739100	SPRING,PINCH ROLLER	
5-14	5800596700	ARM ASSY,PINCH ROLLER;L	
5-15	5378901700	HEAD,ERASE	
5-16	*5800597600	BASE,ERASE HEAD;L	
5-17	5800615500	SPRING,E.HEAD ARM;L	
5-18	5800615700	SPRING,E.HEAD GUIDE	
5-19	5800618700	ARM ASSY,E HEAD;L	
5-20	*5800615300	SPRING,ERASE HEAD	
5-21	5800595701	GUIDE,CASSETTE;L	
5-22	5228009900	PHOTO SENSOR	
5-23	5800750600	HEAD ASSY,P	
5-24	*5800595000	SPACER,A 0.1MM	
5-25	*5800595100	SPACER,B 0.2MM	
5-26	*5800595200	SPACER,C 0.28MM	
5-27	*5800595500	SPRING,PRESSURE	
5-28	*5801005700	SPRING,HEAD BASE	
5-29	*5540055000	STEEL BALL 2.0	
5-30	*5800618101	BASE ASSY,HEAD	
5-31	*5540056000	STEEL BALL 3.0	
5-32	*5800618202	SLIDER ASSY	
5-33	*5800597700	BASE,ERASE HEAD;R	
5-34	*5800615600	SPRING,E.HEAD ARM;R	
5-35	5800618800	ARM ASSY,E HEAD;R	
5-36	*5800616100	SPRING,BRAKE	Ref. pages 44 & 49
5-37	*5800620000	ARM ASSY,BRAKE L	
5-38	*5800619900	ARM ASSY,BRAKE R	
5-39	*5800594000	BRACKET,R	
5-40	5800596800	ARM ASSY,PINCH ROLLER R	
5-41	5800595801	GUIDE,CASSETTE;R	
5-42		CHASSIS ASSY,R	
5-43	*5800953900	BRACKET,MECHANISM;B	
5-44	*5800953800	BRACKET,MECHANISM;A	
5-45	*5800954000	BRACKET,MECHANISM;C	
5-51	*5786003000	E RING,E-3	
5-52	*5783002605	SCREW,PAN S TITE M2.6X5	
5-53	*5783043008	SCREW,FLAT S TITE M3X8	
5-54	*5783032005	SCREW,BIND S TITE M2X5	
5-55	*5780002006	SCREW,BIND M2X6	
5-56	*5785122600	WASHER,LOCK 2.6	
5-57	*5786710100	CLAMPER,CORD 2.3X4X23.5	
5-58	*5786002000	E-RING,E-2	
5-59	*5786002500	E RING,E-2.5	
5-60	*5780112612	SCREW,PAN M2.6X12(N1)	

Parts marked with *require longer delivery time.

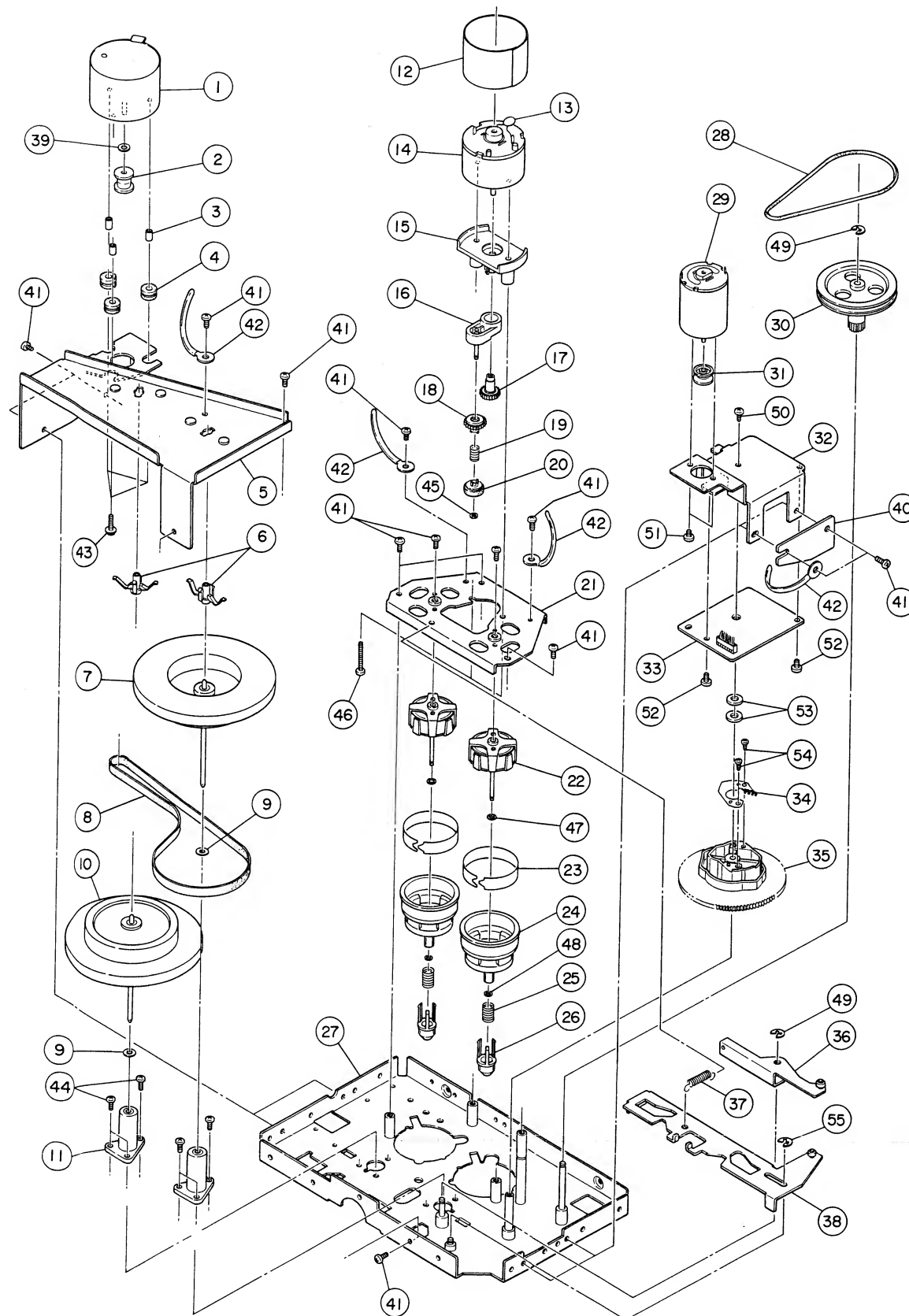
EXPLODED VIEW-5

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5-61	*5781952600	NUT,M2.6	Ref. pages 44 & 49
5-62	*5785313000	WASHER,POLY 3X6X0.5T	
5-63	*5785302400	WASHER,POLY 2.1X5X0.25T	
5-64	*5783032606	SCREW,BIND S TITE M2.6X6	
5-65	*5783002606	SCREW,PAN S TITE M2.6X6	
5-66	*5783002004	SCREW,PAN M2X4	
5-67	*5785313100	WASHER,POLY 3X9X0.5T	
5-68	*5783032604	SCREW,BIND S TITE M2.6X4	

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]:JAPAN

Parts marked with *require longer delivery time.

EXPLODED VIEW-6 (R-919X)



EXPLODED VIEW-6

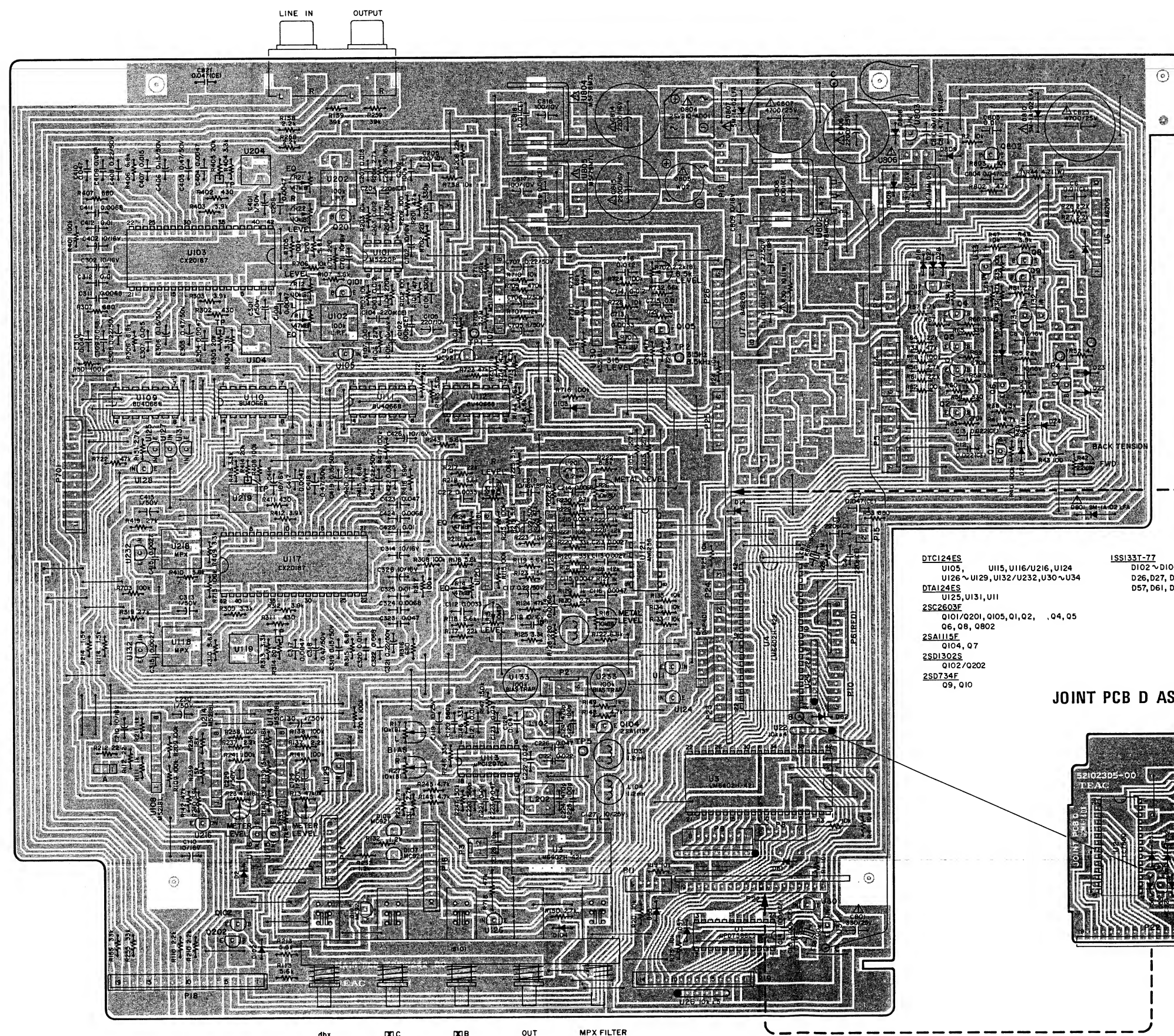
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
6-1	5370006300	MOTOR,DC CAPSTAN	
6-2	5801006500	PULLEY,CAPSTAN MOTOR	
6-3	*5785603050	SPACER 3.0X5.0MM	
6-4	*5534537000	CUSHION,RUBBER	
6-5		BRACKET FLYWHEEL	
6-6	*5800236900	BEARING,THRUST	
6-7	5800732200	CAPSTAN ASSY,L	
6-8	5534810000	BELT,CAPSTAN	
6-9	*5800735300	WASHER,THRUST	
6-10	5800732300	CAPSTAN ASSY,R	
6-11	5800732100	HOLDER ASSY,METAL	
6-12	*5800235900	PLATE,SHIELD	
6-13	*5173395000	C.,CERAMIC 0.047MF 50V	
6-14	5370002502	MOTOR,DC REEL	
6-15	*5800732602	HOLDER,MOTOR	
6-16	5800461500	ARM ASSY,PULLEY	
6-17	5800736000	PULLEY,GEAR;A	
6-18	5800461600	PULLEY ASSY,GEAR;B	
6-19	*5800430200	SPRING,PULLEY	
6-20	5800430302	IDLER ASSY	
6-21		BRACKET,REEL ASSY	
6-22	*5347003300	SHAFT ASSY,COIL	
6-23	*5800731400	RING,HYSTERESIS	
6-24	5800731500	TABLE ASSY,REEL	
6-25	*5800231300	SPRING,REEL	
6-26	*5800236501	RING,DRIVE	
6-27		CHASSIS ASSY,R	
6-28	5800419200	BELT	
6-29	5370005100	MOTOR,CAM;RF-280R-10350	
6-30	5800597001	PULLEY,REDUCTION	
6-31	5800123301	PULLEY,V	
6-32		BRACKET,MOTOR	
6-33	*5210152401	PCB,CAM	
6-34	*5800595300	PLATE,CONTACT	
6-35	*5800597401	CAM,CONTROL	
6-36	*5800620701	ARM ASSY,HEAD BASE	
6-37	*5800732500	SPRING,DIRECTION	
6-38	*5800620801	LEVER ASSY,CHANGE	
6-39	*5801008000	WASHER,OIL	
6-40	*5801006400	STOPER,E	
6-41	*5783002605	SCREW,PAN S TITE M2.6X5	
6-42	*5786713000	CLAMPER,CORD 3.0X9.1X50	
6-43	*5780142608	SCREW,PAN SEMS B M2.6X8	
6-44	*5783002606	SCREW,PAN S TITE M2.6X6	
6-45	*5785331500	WASHER,POLIS. 1.5X4X0.5T	
6-46	*5780002617	SCREW,BIND M2.6X17	
6-47	*5785301100	WASHER,POLY 1.5X4X0.25T	
6-48	*5785331100	WASHER,POLY 1.2X3.6X0.5T	
6-49	*5786002000	E RING,E-2	
6-50	*5780002004	SCREW,BIND M2X4	
6-51	*5780002603	SCREW,BIND M2.6X3	
6-52	*5783032604	SCREW,BIND S TITE M2.6X4	
6-53	*5785024800	WASHER,FLAT 4.3X8X0.8T	
6-54	*5781112004	SCREW,BIND TAPPING 2 M2X4	
6-55	*5786010900	E RING,E-2 (E-9)	

Parts marked with *require longer delivery time.

7 PC BOARDS AND PARTS LIST

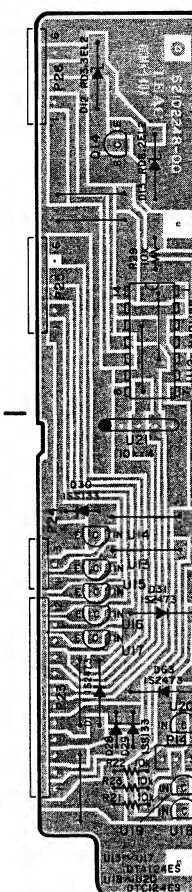
基板図とパーツ・リスト

MAIN PCB ASSY (V-970X)



dbx C B OUT MPX FILTER

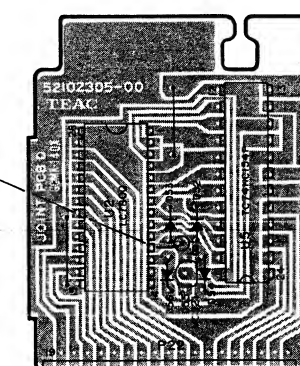
JOINT PCB C ASSY (V-970X)



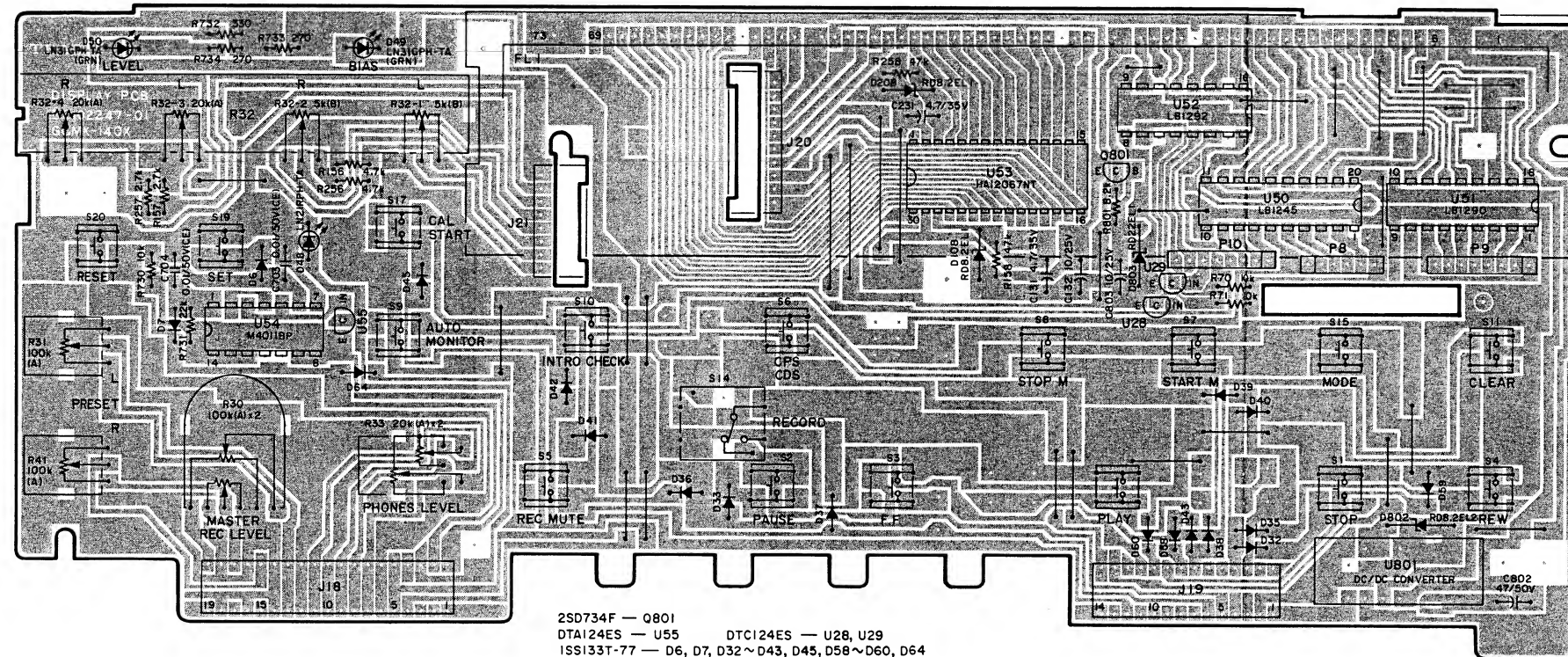
DTI24ES
U105, U115, U116/U216, U124
U126 ~ U129, U132/U232, U30 ~ U34
DTA124ES
U125, U131, U11
2SC2603F
Q101/Q201, Q105, Q102, .04, Q5
Q6, Q8, Q802
2SA1115F
Q104, Q7
2SD1302S
Q102/Q202
2SD734F
Q9, Q10

ISS133T-77
D102 ~ D104, D2, D14, D18, D20 ~ D24
D26, D27, D806, D808, D809
D57, D61, D62, D65

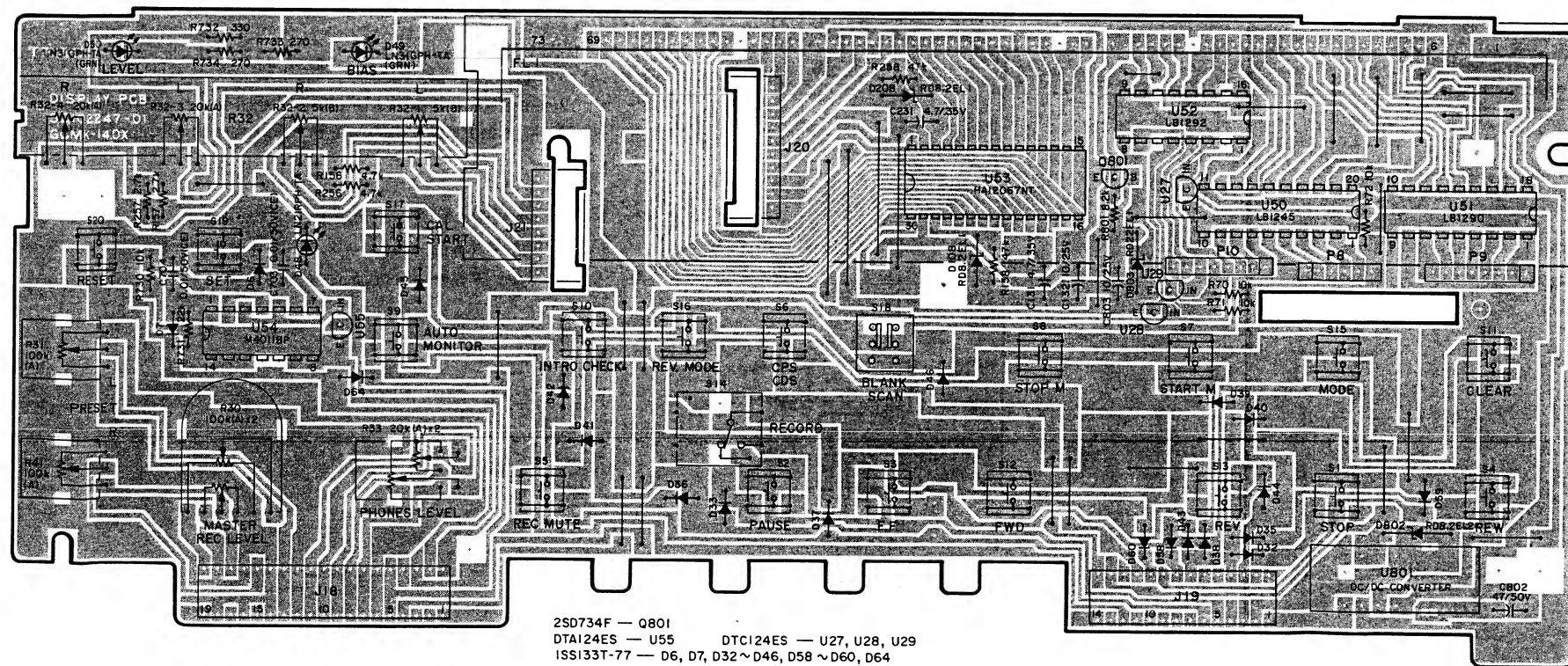
JOINT PCB D ASSY (V-970X)



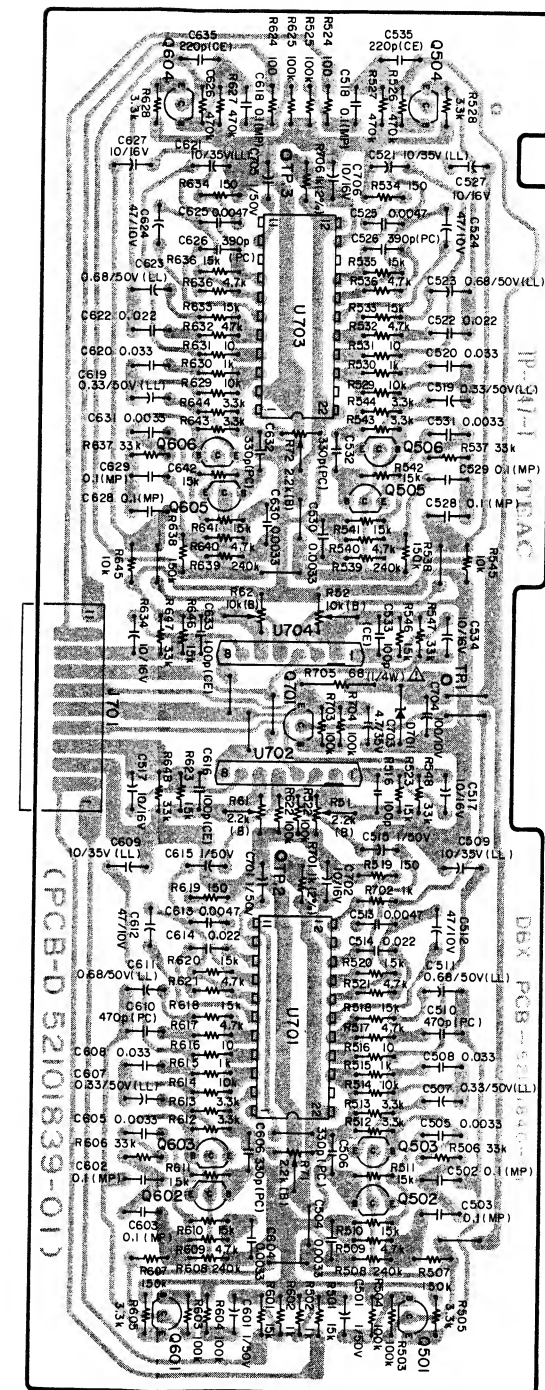
DISPLAY PCB ASSY (V-970X)



DISPLAY PCB ASSY (R-919X)



DBX PCB ASSY



MIAN PCB ASSY [V-970X]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224200	MIAN PCB ASSY
	*5210224200	MIAN PCB
	*5555590000	PLATE.PCB EARTH;A
	*5800990100	HEATSINK
	*5783603006	SCREW,BIND P TITE M3X6
C806	Δ5260416810	C.,ELEC. 2200UF 25V
C807	Δ5260417910	C.,ELEC. 4700UF 25V
C814,815	Δ5260308600	C.,ELEC. 2200UF 16V
C823	Δ5260417910	C.,ELEC. 4700UF 25V
CR01	5347000900	CERAMIC OSC KBR-800H
CR02	5347006500	CERAMIC OSC CSB700A
D002	5224015020	DIODE,ISSI33T-77
D003	5224575001	DIODE,ZENER RD9.1EL2 FR
D004	5228009200	DIODE,ALLEY DAP401
D014	5224015020	DIODE,ISSI33T-77
D017	5224015220	DIODE,MC921
D018	5224015020	DIODE,ISSI33T-77
D020-024	5224015020	DIODE,ISSI33T-77
D026,027	5224015020	DIODE,ISSI33T-77
D057	5224015020	DIODE,ISSI33T-77
D061,062	5224015020	DIODE,ISSI33T-77
D065	5224015020	DIODE,ISSI33T-77
D101	5224015220	DIODE,MC921
D102-107	5224015020	DIODE,ISSI33T-77
D801	Δ5224014400	DIODE,SM-1A-02 LFA
D804	Δ5228010800	SILICON STACK S2VB10
D805	Δ5228005000	SILICON STACK W02
D806	5224015020	DIODE,ISSI33T-77
D807	Δ5224014400	DIODE,SM-1A-02 LFA
D808,809	5224015020	DIODE,ISSI33T-77
D810	Δ5224014400	DIODE,SM-1A-02 LFA
J101	5330510600	PIN JACK,4P
L101L201	5286008700	COIL,CHOKE 8.2MH
L102L202	5286025700	COIL,STEP UP
L103,104	5286006700	COIL,CHOKE 1.2MH
P001	5336126300	CONN.PLUG 8263-0312 WHT
P002	5336126400	CONN.PLUG 8263-0412 WHT
P003	5336126200	CONN.PLUG 8263-0212 WHT
P004	5336126600	CONN.PLUG 8263-0612 WHT
P005	5336126700	CONN.PLUG 8263-0712 WHT
P006	5336135600	CONN.PLUG 8263-0612 RED
P007	5336135400	CONN.PLUG 8263-0412 RED
P008	5336251600	CONN.PLUG B06B-PH-K-R RED
P009	5336249800	CONN.PLUG B08B-PH-K-S WHT
P010	5336249600	CONN.PLUG B06B-PH-K-S WHT
P011	5336251500	CONN.PLUG B05B-PH-K-R RED
P013	5336249500	CONN.PLUG B05B-PH-K-S WHT
P015	5336251200	CONN.PLUG B02B-PH-K-R RED
P016	5336280000	CONN.PLUG 10P 1L-SDA-P
P017	5336279800	CONN.PLUG 8P 1L-SDA-P
P018	5336280900	CONN.PLUG 19P 1L-SDA-P
P019	5336280400	CONN.PLUG 14P 1L-SDA-P
P701	5336221100	CONN.PLUG 5245-11A
Q001,002	5230780920	TRANSISTOR, 2SC2603F
Q004-006	5230780920	TRANSISTOR, 2SC2603F

MIAN PCB ASSY [V-970X]

REF. NO.	PARTS NO.	DESCRIPTION
Q007	5230018920	TRANSISTOR, 2SA1115F
Q008	5230780920	TRANSISTOR, 2SC2603F
Q009,010	5231761300	TRANSISTOR, 2SD734F
Q101Q201	5230780920	TRANSISTOR, 2SC2603F
Q102Q202	5231761400	TRANSISTOR, 2SD1302S
Q104	5230018920	TRANSISTOR, 2SA1115F
Q105	5230780920	TRANSISTOR, 2SC2603F
Q802	5230780920	TRANSISTOR, 2SC2603F
R011R021	5280021700	R.,TRIMMER 47KB
R012R022	5280021300	R.,TRIMMER 10KB
R013R023	5280021700	R.,TRIMMER 47KB
R014R024	5280021700	R.,TRIMMER 47KB
R015R025	5280021300	R.,TRIMMER 10KB
R016R026	5280021300	R.,TRIMMER 10KB
R017R027	5280021300	R.,TRIMMER 10KB
R030	Δ5241215510	R.,INCOOMBUSTBLE 10 1W
R042	5280021500	R.,TRIMMER 22KB
R044	Δ5241182910	R.,INCOMB. 4.7 1W J
R049	Δ5241217510	R.,INCOMB. 68 1W J
R701	5280021700	R.,TRIMMER 47KB
R702	5280020900	R.,TRIMMER 2.2KB
S101	5300046400	PUSH SW 2-2 N
TP02	5544750000	PIN,COMBINATION
TP04-05	5544750000	PIN,COMBINATION
U001	5220810400	IC,UPD7566CS-
U003	5220805300	IC,LM6402H-421
U004	5220805400	IC,LM6402H-422
U006,007	5220427800	IC,BA6209
U011	5232254820	DIGITAL TRANSISTOR,DTA124ES
U022	5242118400	R.,ARRAY RMLS 4J103
U023	5242118600	R.,ARRAY RMLS 8J103
U024	5242118800	R.,ARRAY RMLS 6J223
U026	5242118500	R.,ARRAY RMLS 5J103
U030	5232255720	DIGITAL TRANSISTOR,DTC124ES
U031	5232255720	DIGITAL TRANSISTOR,DTC124ES
U032-034	5232255720	DIGITAL TRANSISTOR,DTC124ES
U101	5220426900	IC,M5220P
U102U202	5292805700	FILTER,LOWP.100KHZ
U103	5220427000	IC,CX20187
U104U204	5292807000	FILTER,19.8KHZ
U105	5232255720	DIGITAL TRANSISTOR,DTC124ES
U107	5220426200	IC,M51143AL
U108	5220416200	IC,M5218L
U109-112	5220041100	IC,BU4066B
U113	5220430400	IC,UPC1297CA
U114U214	5220427400	IC,M5201L
U115	5232255720	DIGITAL TRANSISTOR,DTC124ES
U116U216	5232255720	DIGITAL TRANSISTOR,DTC124ES
U117	5220427000	IC,CX20187
U118U218	5292805600	FILTER,LOWPASS MPX
U119U219	5292807000	FILTER,19.8KHZ
U120-121	5220416200	IC,M5218L
U122	5220039100	IC,AN6256
U123	5292208500	OSC MODULE 100KHZ
U124	5232255720	DIGITAL TRANSISTOR,DTC124ES

Parts marked with *require longer delivery time.

V-970X/R-919X

MIAN PCB ASSY [V-970X]

REF. NO.	PARTS NO.	DESCRIPTION
U125	5232254820	DIGITAL TRANSISTOR,DTA124ES
U126-129	5232255720	DIGITAL TRANSISTOR,DTC124ES
U130	5220416200	IC,M5218L
U131	5232254820	DIGITAL TRANSISTOR,DTA124ES
U132U232	5232255720	DIGITAL TRANSISTOR,DTC124ES
U133U233	5292805900	FILTER,LOW PASS 100KHZ
U802	△5220430300	IC,L78MR05
U803	5232254820	DIGITAL TRANSISTOR,DTA124ES
U804	△5220432200	IC,M5F78M07L
U805	△5220432900	IC,M5F79M07L
U806	△5220432400	IC,M5F78M10L

JOINT PCB(C)ASSY [V-970X]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224800	JOINT PCB(C)ASSY
	*5210224800	JOINT PCB(C)
D001	5224012920	DIODE,IS2473
D012	5224572001	DIODE,ZENER RD3.3EL2 FR
D013	5224573801	DIODE,ZENER RD6.2EL2 FR
D028- 030	5224015020	DIODE,ISS133T-77
D031	5224012920	DIODE,IS2473
D063	5224012920	DIODE,IS2473
P014	5336249300	CONN.PLUG B03B-PH-K-S WHT
P023	5336157200	CONNECTOR PLUG 12P
P024	5336156300	CONNECTOR PLUG 3P
P025- 026	5336156600	CONNECTOR PLUG 6P
Q014	5230780920	TRANSISTOR, 2SC2603F
U012	5220040400	IC,M4011BP
U013- 020	5232254820	DIGITAL TRANSISTOR,DTA124ES
U021	5242118400	R.,ARRAY RMLS 4J103

JOINT PCB(D)ASSY [V-970X]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200230500	JOINT PCB(D)ASSY
	*5210230500	JOINT PCB(D)
D053	5224015020	DIODE,ISS133T-77
D055	5224015220	DIODE,MC921
P022	5336286900	CONN.PLUG 19P IMSA-9210B
U002	5220019700	IC,LC7800
U005	5220055300	IC,TC74HC154P

DISPLAY PCB ASSY [V-970X]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224700	DISPLAY PCB ASSY
	*5210224701	DISPLAY PCB
	*5800953500	HOLDER,METER
D006- 007	5224015020	DIODE,ISS133T-77
D032- 043	5224015020	DIODE,ISS133T-77
D045	5224015020	DIODE,ISS133T-77
D048	5225015320	LED,LN21RPH-TA RED
D049- 050	5225015220	LED,LN31GPH-TA GREEN
D058D060	5224015020	DIODE,ISS133T-77
D064	5224015020	DIODE,ISS133T-77
D108D208	5224574601	DIODE,ZENER RD8.2EL1 FR
D802	5224574701	DIODE,ZENER RD8.2EL2 FR
D803	5224577801	DIODE,ZENER RD22EL1 FR
FL01	5347006400	TUBE,FL FIP72CW15Y
J018	5336282900	CONN.SOCKET 19P IL-SDA-S
J019	5336282400	CONN.SOCKET 14P IL-SDA-S
J020	5334049800	CONN.SOCKET10P TYC-BX-AI
J021	5334049700	CONN.SOCKET 8P TYC-BX-AI
Q801	5231761300	TRANSISTOR, 2SD734F
R030	5282413600	VR. 100KAX2
R031R041	5282017400	VR. 100KA
R032	5283505900	VR.BLOCK 5KBX2,20KBX2
R033	5282413500	VR. 20KAX2
S001- 003	5302103200	SW.,TACT KHH10910
S004- 012	5302103200	SW.,TACT KHH10910
S014	5302105400	SW.,TACT SKHEAB
S015, 017	5302103200	SW.,TACT KHH10910
S019- 020	5302103200	SW.,TACT KHH10910
U028U029	5232255720	DIGITAL TRANSISTOR,DTC124ES
U050	5232253200	TR.,ARRAY,LB1245
U051	5232252900	TR.,ARRAY LB1290
U052	5232252800	TR.,ARRAY LB1292
U053	5220041000	IC,HA12067NT
U054	5220040400	IC,M4011BP
U055	5232254820	DIGITAL TRANSISTOR,DTA124ES
U801	5292208300	DC/DC CONVERTER

Parts marked with *require longer delivery time.

MIAN PCB ASSY [R-919X]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224210	MIAN PCB ASSY
	*5210224200	MIAN PCB
	*5555590000	PLATE.PCB EARTH;A
	*5800990100	HEATSINK
	*5783603006	SCREW,BIND P TITE M3X6
C806	Δ5260416810	C.,ELEC. 2200UF 25V M SEM
C807	Δ5260417910	C.,ELEC. 4700UF 25V M SEM
C814-815	Δ5260308600	C.,ELEC. 2200UF 16V M PS
C823	Δ5260417910	C.,ELEC. 4700UF 25V M SEM
CR01	5347000900	CERAMIC OSC KBR-800H
CR02	5347006500	CERAMIC OSC CSB700A
D002	5224015020	DIODE,ISS133T-77
D003	5224575701	DIODE,ZENER RD1IEL2 FR
D004	5228009200	DIODE,ALLEY DAP401 MS-16
D005	5224015020	DIODE,ISS133T-77
D008,009	5224015020	DIODE,ISS133T-77
D010,011	5225015820	LED,LTZ-MR15
D014	5224015020	DIODE,ISS133T-77
D017	5224015220	DIODE,MC921
D018-027	5224015020	DIODE,ISS133T-77
D057	5224015020	DIODE,ISS133T-77
D065-067	5224015020	DIODE,ISS133T-77
D101	5224015220	DIODE,MC921
D102-104	5224015020	DIODE,ISS133T-77
D105-107	5224015220	DIODE,MC921
D801	Δ5224014400	DIODE,SM-1A-02 LFA
D804	Δ5228010800	SILICON STACK,S2VB10
D805	Δ5228005000	SILICON STACK,W02
D806	5224015020	DIODE,ISS133T-77
D807	5224014400	DIODE,SM-1A-02 LFA
D808,809	5224015020	DIODE,ISS133T-77
D810	Δ5224014400	DIODE,SM-1A-02 LFA
J101	5330510600	PIN JACK,4P
L101L201	5286008700	COIL,CHOKE 8.2MH
L102L202	5286025700	COIL,STEP UP
L103,104	5286006700	COIL,CHOKE 1.2MH
P001	5336126300	CON.,PLUG 8263-0312(WHT)
P002	5336126400	CON.,PLUG 8263-0412(WHT)
P003	5336126200	CON.,PLUG 8263-0212(WHT)
P004	5336126600	CON.,PLUG 8263-0612(WHT)
P005	5336126700	CON.,PLUG 8263-0712(WHT)
P006	5336135600	CON.,PLUG 8263-0612(RED)
P007	5336135400	CON.,PLUG 8263-0412(RED)
P008	5336251600	CON.,PLUG B06B-PH-K-R(RED)
P009	5336249800	CON.,PLUG B08B-PH-K-S(WHT)
P010	5336249600	CON.,PLUG B06B-PH-K-S(WHT)
P011	5336251500	CON.,PLUG B05B-PH-K-R(RED)
P013	5336249500	CON.,PLUG B05B-PH-K-S(WHT)
P015	5336251200	CON.,PLUG B02B-PH-K-R(RED)
P016	5336280000	CON.,PLUG 10P IL-SDA-P
P017	5336279800	CON.,PLUG 8P IL-SDA-P
P018	5336280900	CON.,PLUG 19P IL-SDA-P
P019	5336280400	CON.,PLUG 14P IL-SDA-P
P701	5336221100	CON.,PLUG 5245-11A
Q001-006	5230780920	TRANSISTER,2SC2603F

MIAN PCB ASSY [R-919X]

REF. NO.	PARTS NO.	DESCRIPTION
Q007	5230018920	TRANSISTER,2SA1115F
Q008	5230780920	TRANSISTER,2SC2603F
Q009-013	5231761300	TRANSISTER,2SD734F
Q101Q201	5230780920	TRANSISTER,2SC2603F
Q102Q202	5231761400	TRANSISTER,2SD1302S
Q104	5230018920	TRANSISTER,2SA1115F
Q105	5230780920	TRANSISTER,2SC2603F
Q802	5230780920	TRANSISTER,2SC2603F
R011R021	5280021700	R.,TRIMMER 47KB
R012R022	5280021300	R.,TRIMMER 10KB
R013R023	5280021700	R.,TRIMMER 47KB
R014R024	5280021700	R.,TRIMMER 47KB
R015R025	5280021300	R.,TRIMMER 10KB
R016R026	5280021300	R.,TRIMMER 10KB
R017R027	5280021300	R.,TRIMMER 10KB
R018	5280021700	R.,TRIMMER 47KB
R042	5280021500	R.,TRIMMER 22KB
R044	Δ5241182910	R.,INCOMB. 4.7 OHM 1W J
R049	Δ5241216710	R.,NONFRAMABLE 33 OHM J
R074	5280021500	R.,TRIMMER 22KB
R083	5280021900	R.,TRIMMER 100KB
R084,701	5280021700	R.,TRIMMER 47KB
R702	5280020900	R.,TRIMMER 2.2KB
S101	5300046400	PUSH SW 5-GANG 2-2 N
TP01	5544750000	PIN,COMBINATION
TP02- 05	5544750000	PIN,COMBINATION
U001	5220810400	IC,UPD7566CS-
U003	5220805300	IC,LM6402H-421
U004	5220805400	IC,LM6402H-422
U006,007	5220427800	IC,BA6209
U009	5220040300	IC,M4069UBP
U010	5220419500	IC,LA6358
U011	5232254820	DIGITAL TRANSISTOR, DTA124ES
U022	5242118400	R.,ARRAY RMLS 4J103
U023	5242118600	R.,ARRAY RMLS 8J103
U024	5242118800	R.,ARRAY RMLS 6J223
U026	5242118500	R.,ARRAY RMLS 5J103
U030-034	5232255720	DIGITAL TRANSISTOR, DTC124ES
U101	5220426900	IC,M5220P
U102U202	5292805700	FILTER,LOWP.100KHZ
U103	5220427000	IC,CX20187
U104U204	5292807000	FILTER,19.8KHZ
U105,106	5232255720	DIGITAL TRANSISTOR, DTC124ES
U107	5220426200	IC,M51143AL
U108	5220416200	IC,M5218L
U109-112	5220041100	IC,BU4066B
U113	5220430400	IC,UPC1297CA
U114U214	5220427400	IC,M5201L
U115	5232255720	DIGITAL TRANSISTOR, DTC124ES
U116U216	5232255720	DIGITAL TRANSISTOR, DTC124ES
U117	5220427000	IC,CX20187
U118U218	5292805600	FILTER,LOWPASS MPX
U119U219	5292807000	FILTER,19.8KHZ
U120,121	5220416200	IC,M5218L
U122	5220039100	IC,AN6256

Parts marked with *require longer delivery time.

V-970X/R-919X

MIAN PCB ASSY [R-919X]

REF. NO.	PARTS NO.	DESCRIPTION
U123	5292208400	OSC MODULE R 100KHZ
U124	5232255720	DIGITAL TRANSISTOR, DTC124ES
U125-129	5232254820	DIGITAL TRANSISTOR, DTA124ES
U130	5220416200	IC,M5218L
U131	5232254820	DIGITAL TRANSISTOR, DTA124ES
U132U232	5232255720	DIGITAL TRANSISTOR, DTC124ES
U133U233	5292805900	FILTER,LOW PASS 100KHZ
U802	△ 5220430300	IC,L78MR05
U803	5232254820	DIGITAL TRANSISTOR, DTA124ES
U804	△ 5220432200	IC, M5F78M07L
U805	△ 5220432900	IC, M5F79M07L
U806	△ 5220432400	IC, M5F78M10L

JOINT PCB(C)ASSY [R-919X]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224800	JOINT PCB(C)ASSY
	*5210224800	JOINT PCB(C)
D001	5224012920	DIODE,IS2473
D012	5224572001	DIODE,ZENER RD3.3EL2 FR
D013	5224573801	DIODE,ZENER RD6.2EL2 FR
D028-030	5224015020	DIODE,ISS133T-77
D031	5224012920	DIODE,IS2473
D063	5224012920	DIODE,IS2473
P014	5336249300	CON.,PLUG B03B-PH-K-S(WHT)
P023	5336157200	CON.,PLUG 12P
P024	5336156300	CON.,PLUG 3P
P025-026	5336156600	CON.,PLUG 6P
Q014	5230780920	TRANSISTOR,2SC2603F
U012	5220040400	IC,M4011BP
U013	5232254820	DIGITAL TRANSISTOR, DTA124ES
U014-017	5232254820	DIGITAL TRANSISTOR, DTA124ES
U018-020	5232255720	DIGITAL TRANSISTOR, DTC124ES
U021	5242118400	R.,ARRAY RMLS 4J103

JOINT PCB(D)ASSY [R-919X]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200230510	JOINT PCB(D)ASSY
	*5210230500	JOINT PCB(D)
D052-054	5224015020	DIODE,ISS133T-77
D055	5224015220	DIODE,MC921
D056	5224015020	DIODE,ISS133T-77
P022	5336286900	CON.,PLUG 19P IMSA-9210B
U002	5220019700	IC,LC7800
U005	5220055300	IC,TC74HC154P

DISPLAY PCB ASSY [R-919X]

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224710	DISPLAY PCB ASSY [R-919X]
	*5210224701	DISPLAY PCB
	*5800953500	HOLDER,METER
D006,007	5224015020	DIODE,ISS133T-77
D032-046	5224015020	DIODE,ISS133T-77
D048	5225015320	LED,LN21RPH-TA RED
D049-050	5225015220	LED,LN31GPH-TA GREEN
D058D059	5224015020	DIODE,ISS133T-77
D060	5224015020	DIODE,ISS133T-77
D064	5224015020	DIODE,ISS133T-77
D108D208	5224574601	DIODE,ZENER RD8.2EL1 FR
D802	5224574701	DIODE,ZENER RD8.2EL2 FR
D803	5224577801	DIODE,ZENER RD22EL1 FR
FL01	5347006400	FL TUBE,F1P72CW15Y
J018	5336282900	CON.,SOCKET 19P IL-SDA-S
J019	5336282400	CON.,SOCKET 14P IL-SDA-S
J020	5334049800	CON.,SOCKET 10P TYC-BX-AI
J021	5334049700	CON.,SOCKET 8P TYC-BX-AI
Q801	5231761300	TRANSISTOR,2SD734F
R030	5282413600	VR, 100KX2
R031R041	5282017400	VR, 100KA
R032	5283505900	4-BLOCK VR 5KBX2,20KBX2
R033	5282413500	VR, 20KAX2
S001-013	5302103200	SW.,TACT KHH10910
S014	5302105400	SW.,TACT SKHEAB
S015-017	5302103200	SW.,TACT KHH10910
S018	5300042600	SW.,PUSH 2-2 N
S019,020	5302103200	SW.,TACT KHH10910
U027	5232255720	DIGITAL TRANSISTOR, DTC124ES
U028U029	5232255720	DIGITAL TRANSISTOR, DTC124ES
U050	5232253200	TR ARRAY,LB1245
U051	5232252900	TR.,ARRAY LB1290
U052	5232252800	TR.,ARRAY LB1292
U053	5220041000	IC,HA12067NT
U054	5220040400	IC,M4011BP
U055	5232254820	DIGITAL TRANSISTOR, DTA124ES
U801	5292208300	DC/DC CONVERTER

Parts marked with *require longer delivery time.

DBX PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200184001	DBX PCB ASSY
	*5210184001	DBX PCB
	*5544750000	PIN, COMBINATION
D701	5224540301	DIODE, ZENER RD5.1EB2 FR
J701	5336219100	CON., SOCKET 5244-11A
Q501Q601	5230781120	TRANSISTOR, 2SC1740SLN
Q502Q602	5230781120	TRANSISTOR, 2SC1740SLN
Q503Q603	5230781120	TRANSISTOR, 2SC1740SLN
Q504Q604	5230781120	TRANSISTOR, 2SC1740SLN
Q505Q605	5230781120	TRANSISTOR, 2SC1740SLN
Q506Q606	5230781120	TRANSISTOR, 2SC1740SLN
Q701	5230019020	TR., 2SA933SLN
R51 R61	5280020900	R., TRIMMER 2.2KB
R52 R62	5280021300	R., TRIMMER 10KB
R705	Δ5183574000	R., INCOMBUSTIBLE 68 1/4W
R71 R72	5280020900	R., TRIMMER 2.2KB
U701	5220423100	IC, AN6291
U702	5220416200	IC, M5218L
U703	5220423100	IC, AN6291
U704	5220416200	IC, M5218L

SENSOR PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200182400	SENSOR PCB ASSY
	*5210182400	SENSOR PCB
	*5800735900	SPACER
Q001Q002	5228013100	PHOTO REFLECTOR 5141EA-B

JACK PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200225300	JACK PCB ASSY
	*5210225300	JACK PCB
J102	5330013900	JACK, LGR4502-5000

TIMER SW PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200225200	TIMER SW PCB ASSY
	*5210225200	TIMER SW PCB
S021	5300909600	SW., SLIDE 2-3
U008	5292208200	SENSOR MODULE BX-1407

POWER SW PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224900	POWER SW PCB ASSY [J,US,C,GE]
	*5200224910	POWER SW PCB ASSY [E,UK,A]
	*5210224900	POWER SW PCB
C820	Δ5267703800	SPARK KILLER, 4700PF400V M
P027	5327009200	TERMINAL, LAP 2P (P=10) [E,UK,A]
S102	Δ5300046200	SW., PUSH 1-1 SDDLDI

VOL.SELECTOR PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200225000	VOL.SELECTOR PCB ASSY [GE]
	*5210225000	VOL.SELECTOR PCB [GE]
	*5332016300	VOL.SELECTOR FS907BB [GE]

JOINT PCB(A) ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224300	JOINT PCB(A) ASSY
	*5210224300	JOINT PCB(A)
J016	5336282000	CON., PLUG 10P 1L-SDA-S
P020	5334049400	CON., PLUG 10P TYC-BP-AI
U301	5232254820	DIGITAL TRANSISTOR, DTA124ES
U302-304	5232254820	DIGITAL TRANSISTOR, DTA124ES
U305-311	5232255720	DIGITAL TRANSISTOR, DTC124ES

JOINT PCB(B) ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	*5200224400	JOINT PCB(B) ASSY
	*5210224400	JOINT PCB(B)
J017	5336281800	CON., SOCKET 8P 1L-SDA-S
P021	5334049300	CON., PLUG 8P TYC-BP-AI

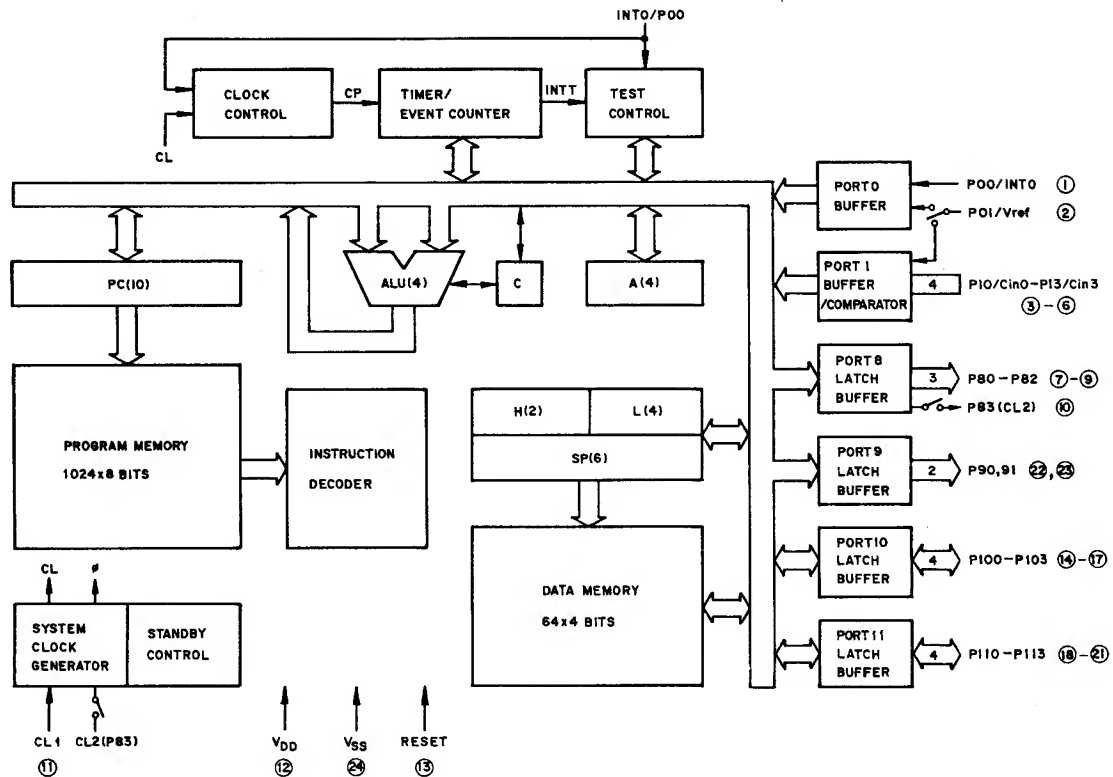
[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]:JAPAN

Parts marked with *require longer delivery time.

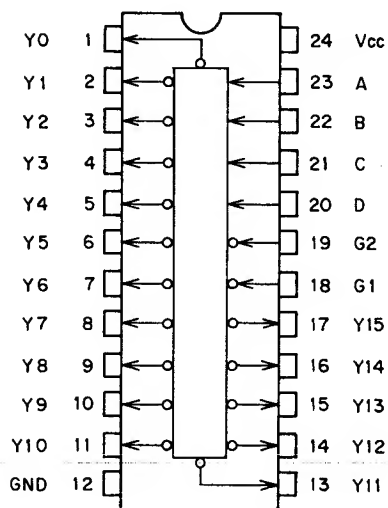
8 IC BLOCK DIAGRAMS

ICブロック・ダイアグラム

μPD7566CS

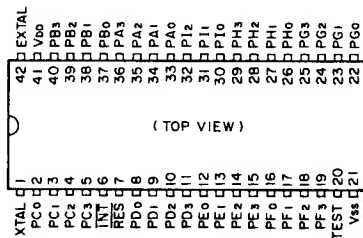
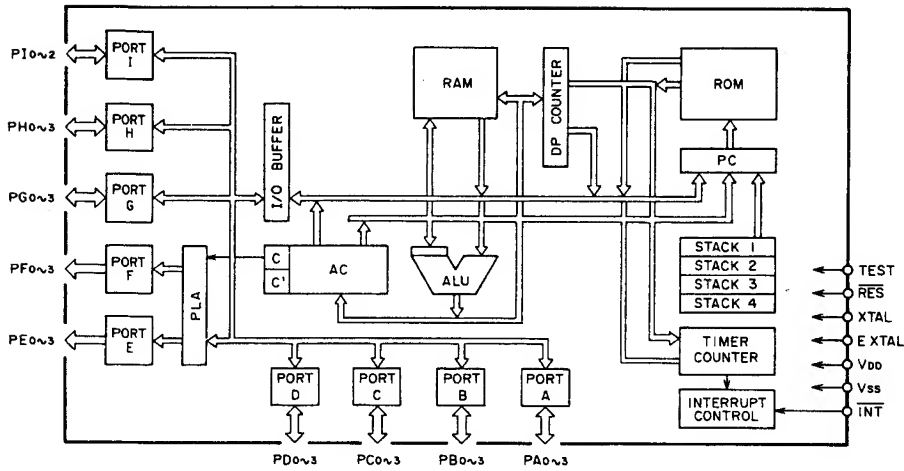


TC74HC154P

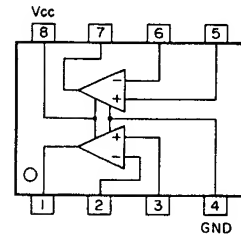


INPUTS						SELECTED OUTPUT (L)
G1	G2	D	C	B	A	
L	L	L	L	L	L	Y0
L	L	L	L	L	H	Y1
L	L	L	L	H	L	Y2
L	L	L	L	H	H	Y3
L	L	L	H	L	L	Y4
L	L	L	H	L	H	Y5
L	L	L	H	H	L	Y6
L	L	L	H	H	H	Y7
L	L	H	L	L	L	Y8
L	L	H	L	L	H	Y9
L	L	H	L	H	L	Y10
L	L	H	L	H	H	Y11
L	L	H	H	L	L	Y12
L	L	H	H	L	H	Y13
L	L	H	H	H	L	Y14
L	L	H	H	H	H	Y15

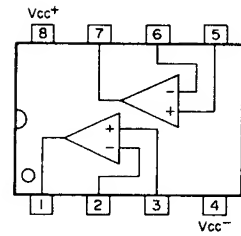
LM6402H-421
LM6402H-422



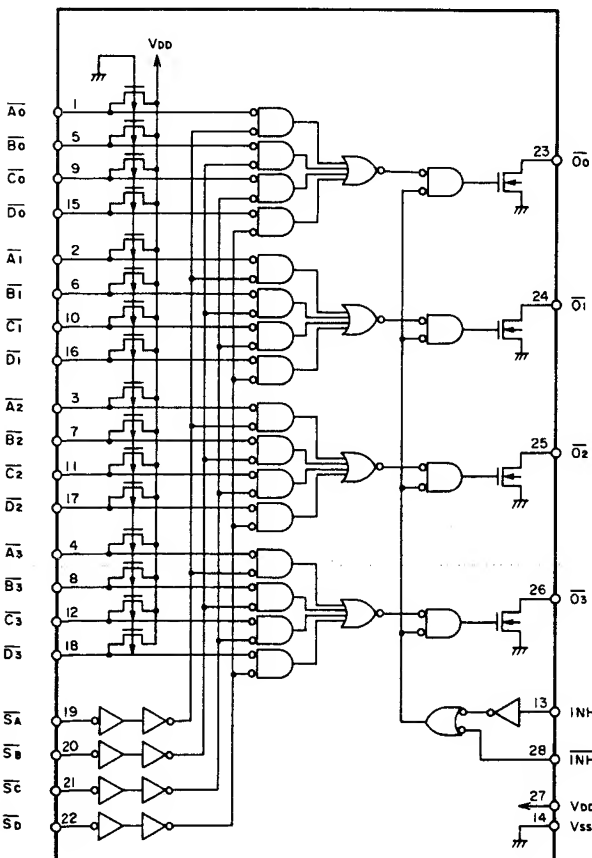
LA6358



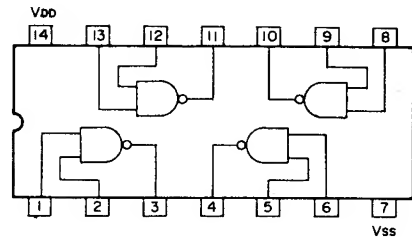
M5220P



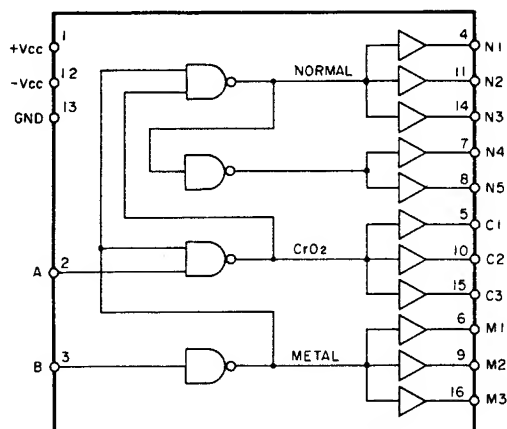
LC7800



M4011BP

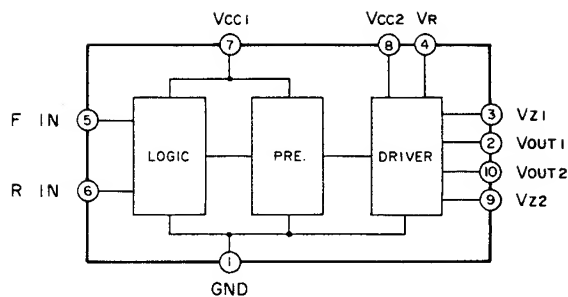


AN6256

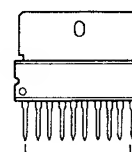


A	B	N1~N3	N4~N5	C1~C3	M1~M3	TAPE
L	L	L	H	H	H	NORMAL
L	H	H	L	H	L	CrO2
H	L	H	L	L	H	CrO2
H	H	H	L	H	L	METAL

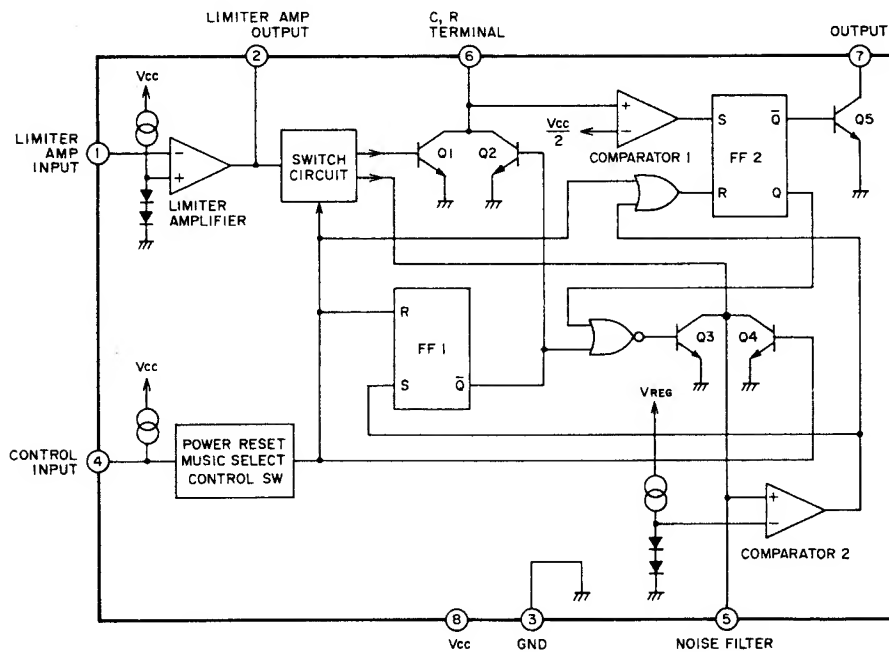
BA6209



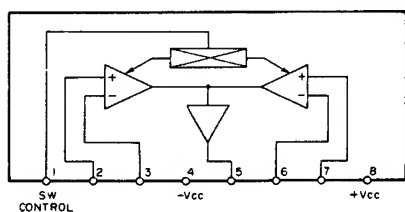
F IN	R IN	Vout1	Vout2
H	H	L	L
L	H	L	H
H	L	H	L
L	L	L	L



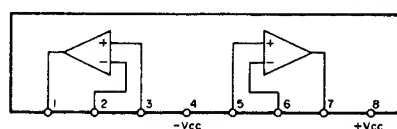
M51143AL

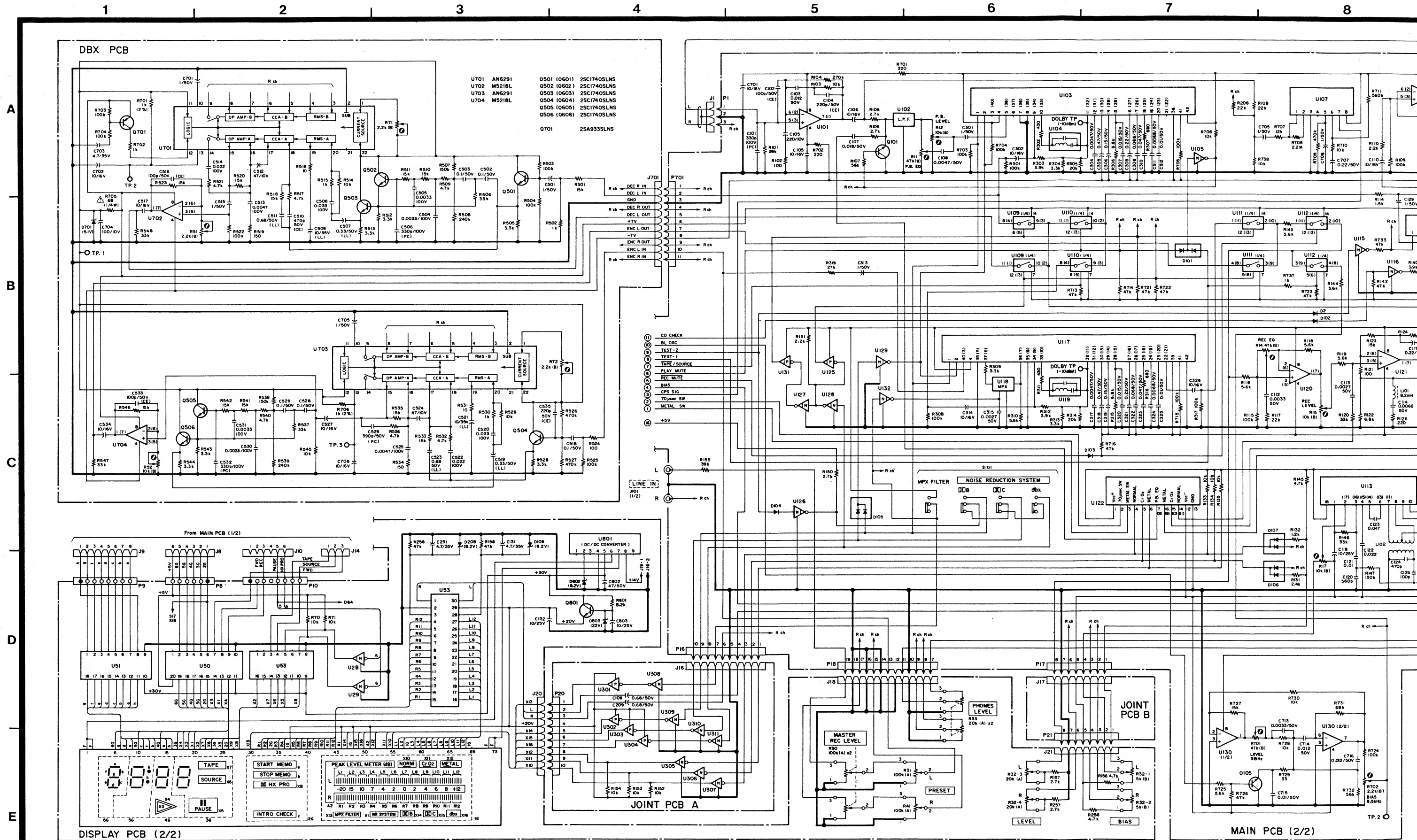


M5201L




M5218L





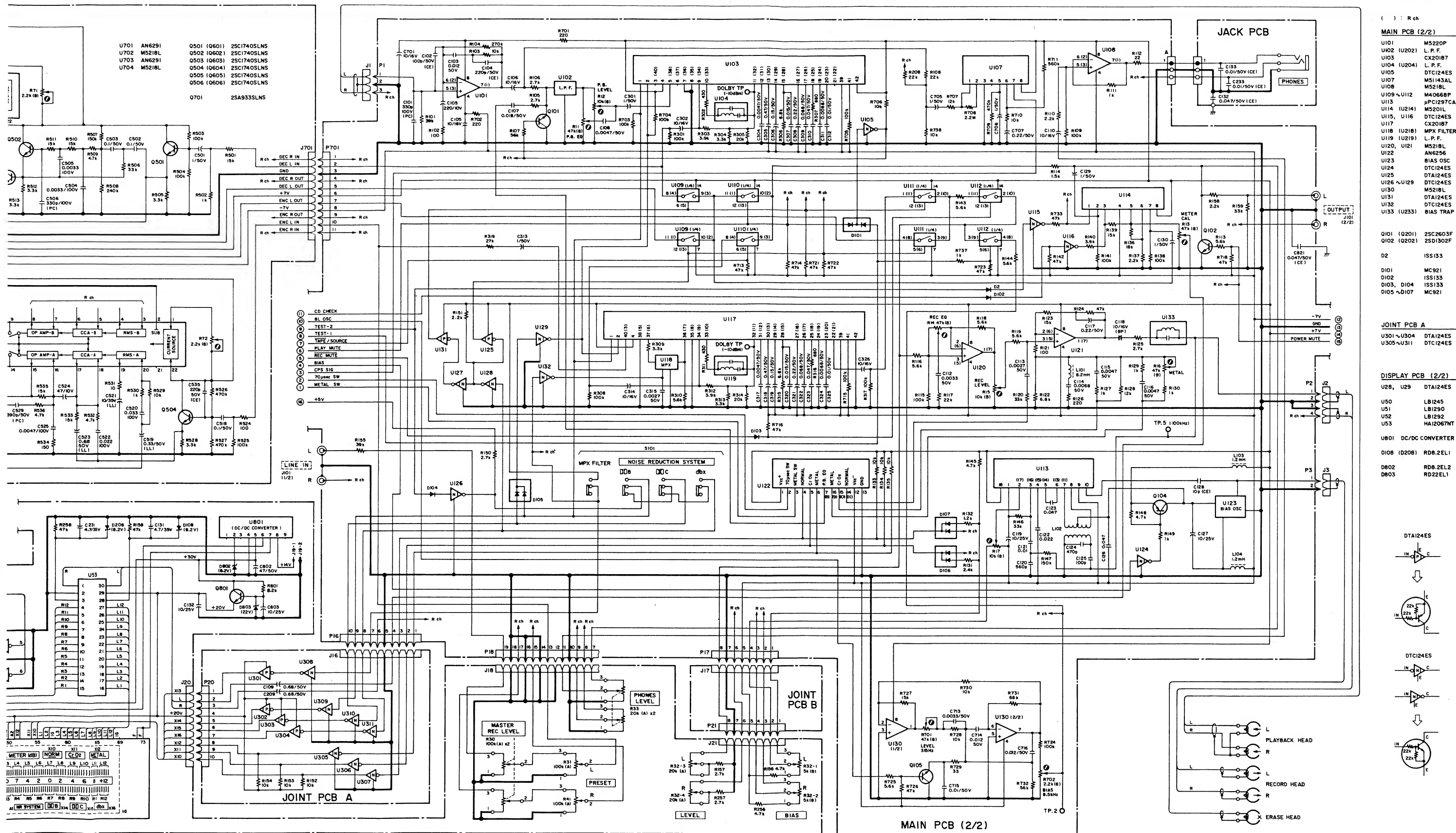
NOTES

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3.  Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

注意

1. 抵抗の単位は Ω ($k=k\Omega$, $M=M\Omega$)です。
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3. Δ マークのある部品は安全重要部品です。
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V-970



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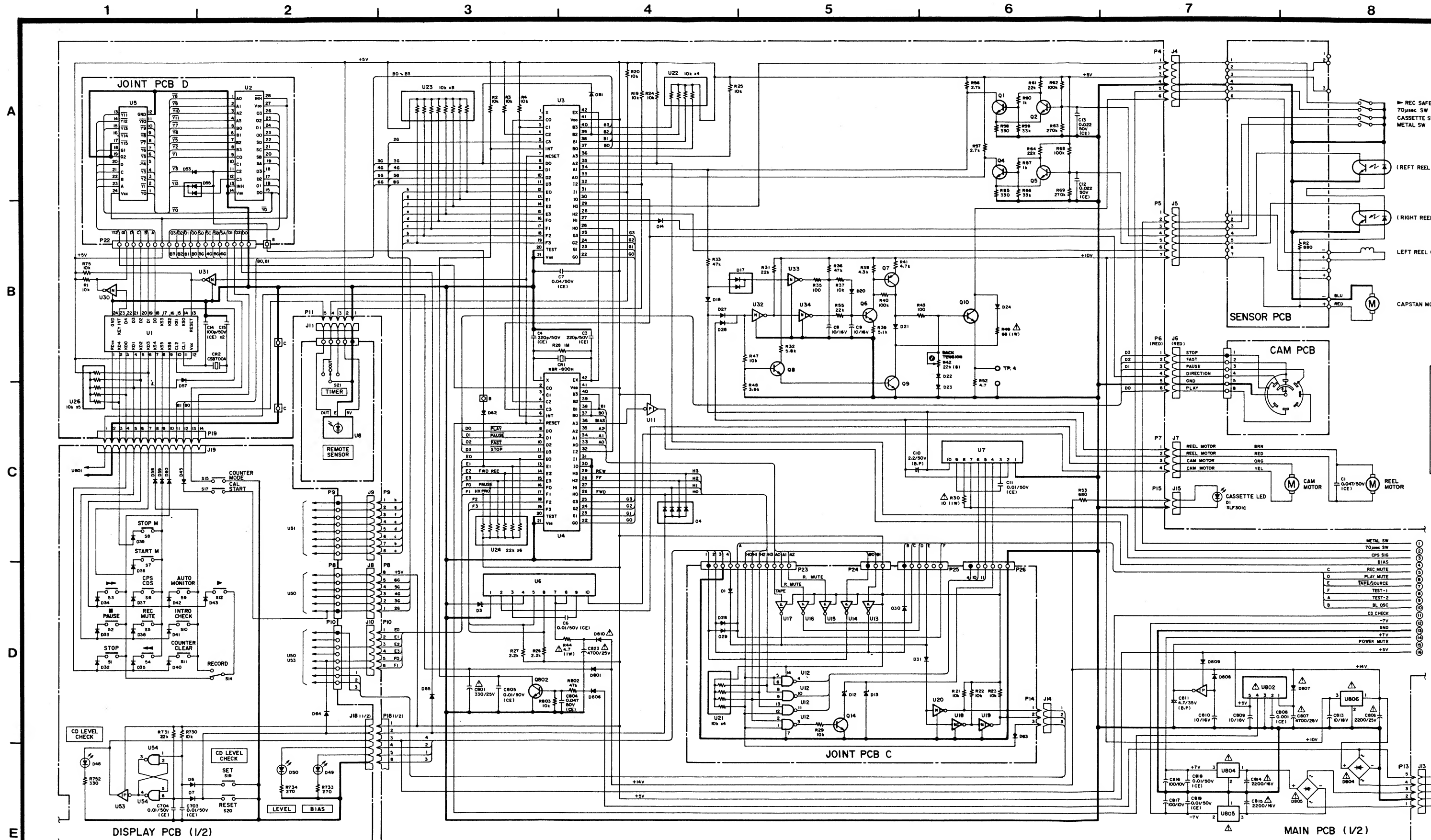
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V-970X STEREO CASSETTE DECK

1st Issue; October, 1987

INSTRUCTIONS FOR SERVICE PERSONNEL

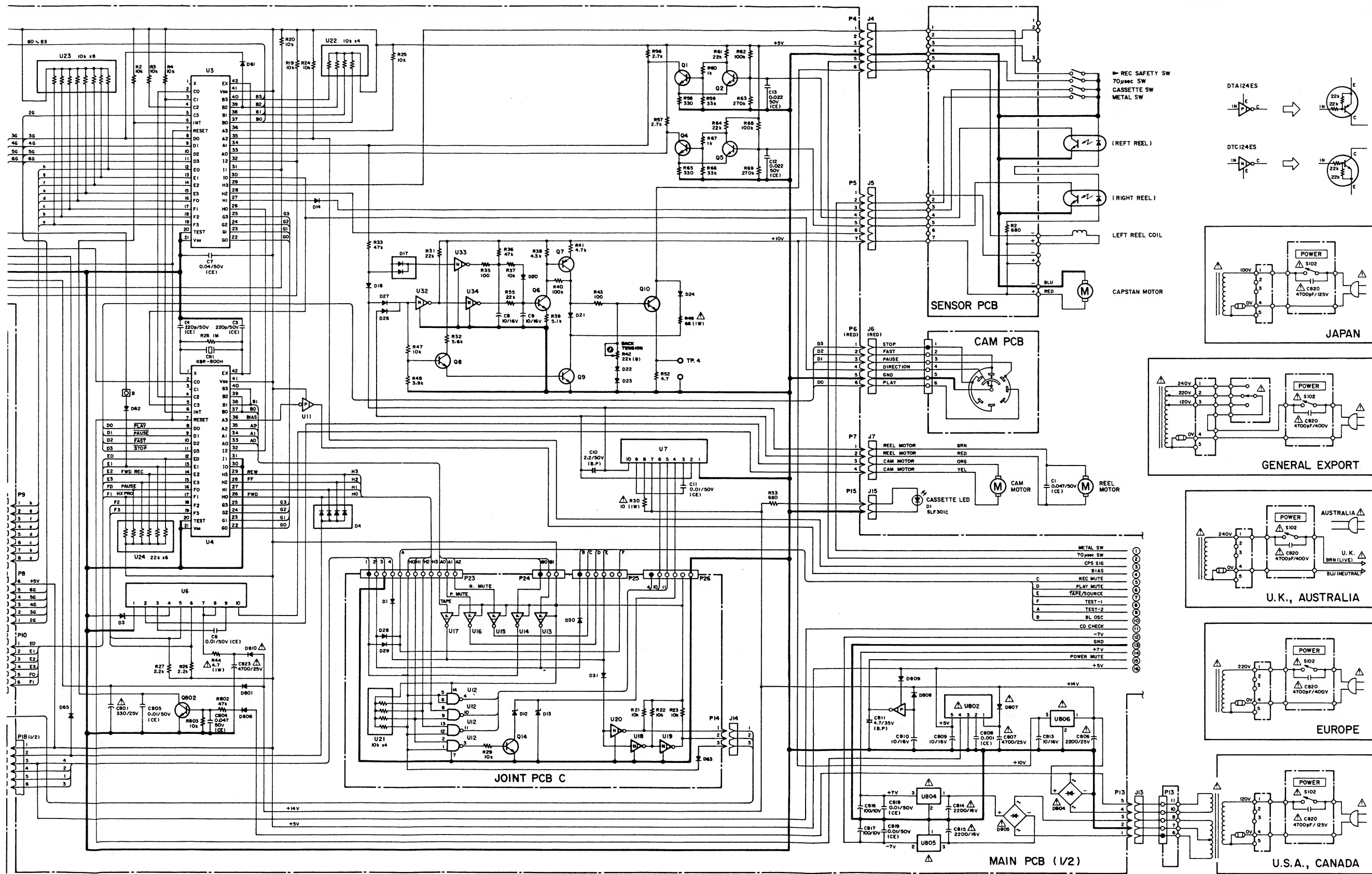
RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED E ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.



INSTRUCTIONS FOR SERVICE PERSONNEL
 BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

- NOTES**
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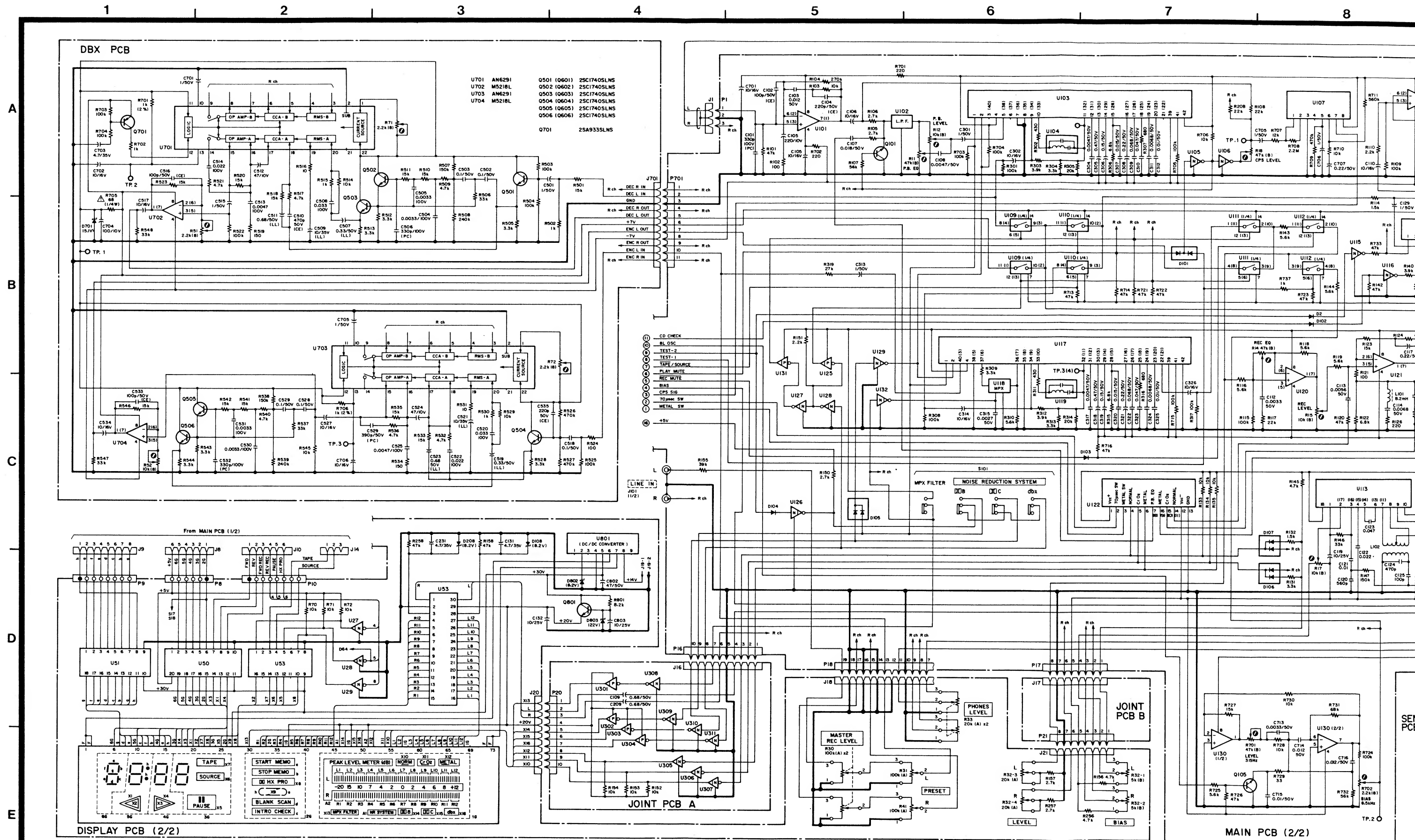


PCB	REF. NO.	COMPONENT
MAIN	U1	µPD7566CS
JOINT-D	U2	LC7800
MAIN	U3	LM6402H-421
MAIN	U4	LM6402H-422
JOINT-D	U5	TC74HC154P
MAIN	U6	BA6209
MAIN	U7	BA6209
TIMER	U8	BX1407
MAIN	U11	DTA124ES
JOINT-C	U12	MA011BP
JOINT-C	U13	DTA124ES
JOINT-C	U18 ~ U20	DTA124ES
JOINT-C	U21	10k x4
MAIN	U22	10k x4
MAIN	U23	10k x8
MAIN	U24	22k x6
MAIN	U25	10k x5
MAIN	U30 ~ U34	DTA124ES
DISPLAY	U53	DTA124ES
DISPLAY	U54	MA011BP
MAIN	U802	LM78MR05
MAIN	U803	DTA124ES
MAIN	U804	MSF78M07L
MAIN	U805	MSF78M07L
MAIN	U806	MSF78M10L
MAIN	Q1 ~ Q6	2SC2603F
MAIN	Q7	2SA1115F
MAIN	Q8	2SC2603F
MAIN	Q9 ~ Q13	2SD734F
JOINT-C	Q14	2SC2603F
MAIN	Q802	2SC2603F
JOINT-C	D1	IS2473
MAIN	D3	RD91EL1
MAIN	D4	DAP401
DISPLAY	D6, D7	ISS133
JOINT-C	D12	RD3.3EL2
JOINT-C	D13	RD6.2EL2
MAIN	D14	ISS133
MAIN	D17	MC921
MAIN	D18 ~ D27	ISS133
JOINT-C	D28 ~ D30	ISS133
JOINT-C	D31	IS2473
DISPLAY	D32 ~ D45	ISS133
DISPLAY	D48	LN21RPH-TA
DISPLAY	D49, D50	LN31GPH-TA
JOINT-D	D53	ISS133
JOINT-D	D55	MC921
MAIN	D57	ISS133
DISPLAY	D58 ~ D60	ISS133
MAIN	D61, D62	ISS133
JOINT-C	D63	IS2473
DISPLAY	D64	ISS133
MAIN	D65	ISS133
MAIN	D801	SM-1A-02LFA
MAIN	D804	S2VB10
MAIN	D805	W02
MAIN	D806	ISS133
MAIN	D807	SM-1A-02LFA
MAIN	D808, D809	ISS133
MAIN	D810	SM-1A-02LFA
*1	D19, D25	VACANT
*2	D44	VACANT

INSTRUCTIONS FOR SERVICE PERSONNEL
RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-
RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED
ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

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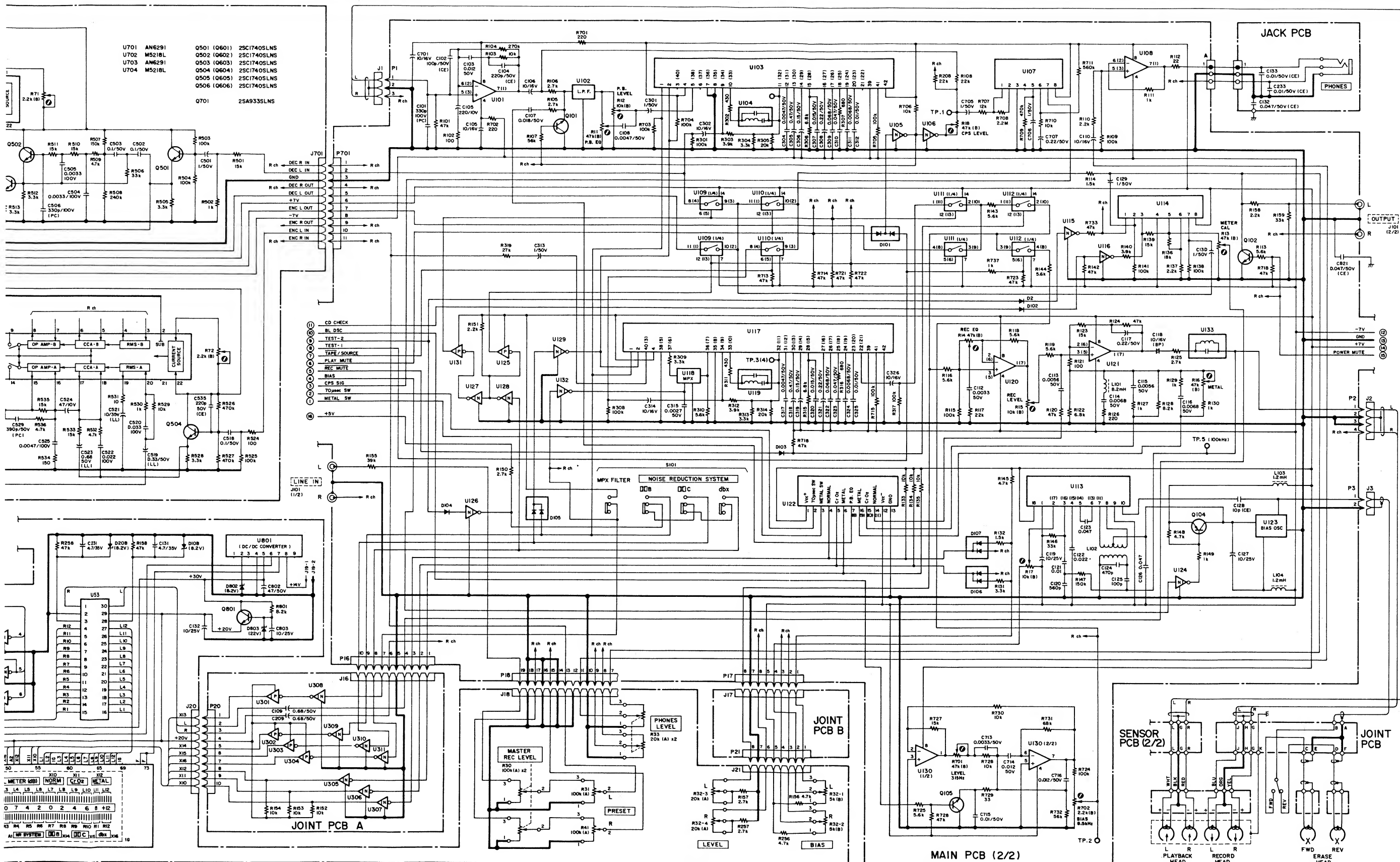
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R-919X



MAIN PCB (2/2)

U101	M5220P
U102 (U202)	L.P.F.
U103	CX20187
U104 (U204)	L.P.F.
U105, U106	DTC124ES
U107	M5143AL
U108	M5218L
U109~U112	M4066BP
U113	µPC1297CA
U114 (U214)	M5201L
U115, U116	DTC124ES
U117	CX20187
U118 (U218)	MPX FILTER
U119 (U219)	L.P.F.
U120, U121	M5218L
U122	AN6256
U123	BIAS OSC
U124	DTC124ES
U125	DTC124ES
U126~U129	M5218L
U130	M5218L
U131	DTA124ES
U132	DTC124ES
U133 (U233)	BIAS TRAP

Q101 (Q201)	2SC2603F
Q102 (Q202)	2SD1302F
D2	ISS133
D101	MC921
D102	ISS133
D103, D104	ISS133
D105~D107	MC921

JOINT PCB A

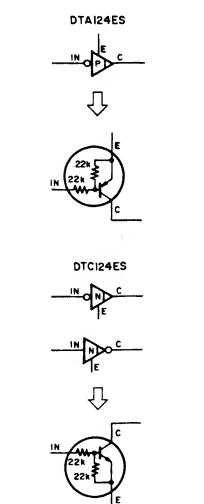
U301~U304	DTA124ES
U305~U311	DTC124ES

DISPLAY PCB (2/2)

U27 ~U29	DTA124ES
U50	LB1245
U51	LB1290
U52	LB1292
U53	HA12067NT

U801 DC/DC CONVERTER

D108 (D208)	RD8.2EL1
D802	RD8.2EL2
D803	RD22EL1



NOTES

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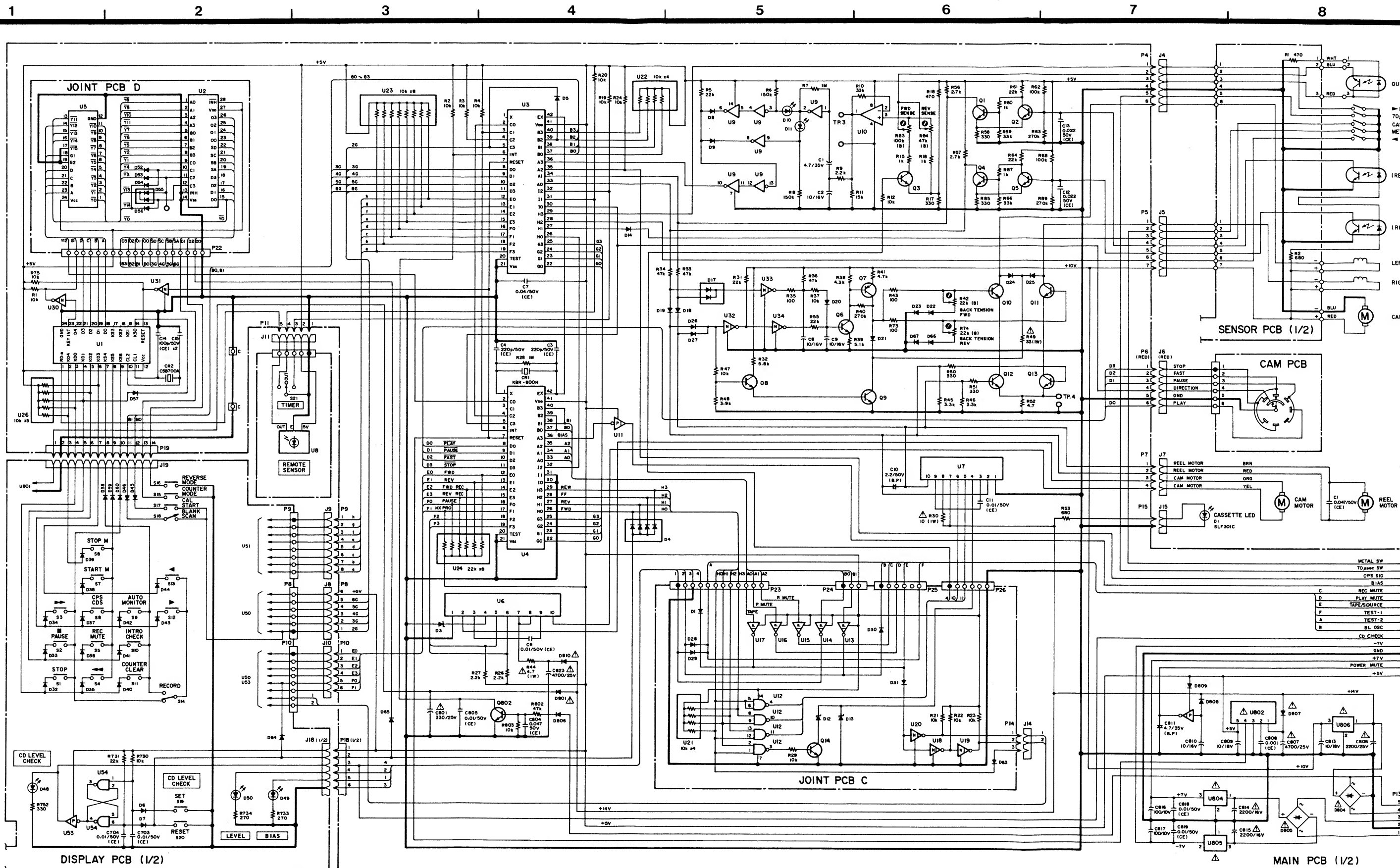
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R-919X STEREO CASSETTE DECK

1st Issue; October, 1987

INSTRUCTIONS FOR SERVICE PERSONNEL

RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED E ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.



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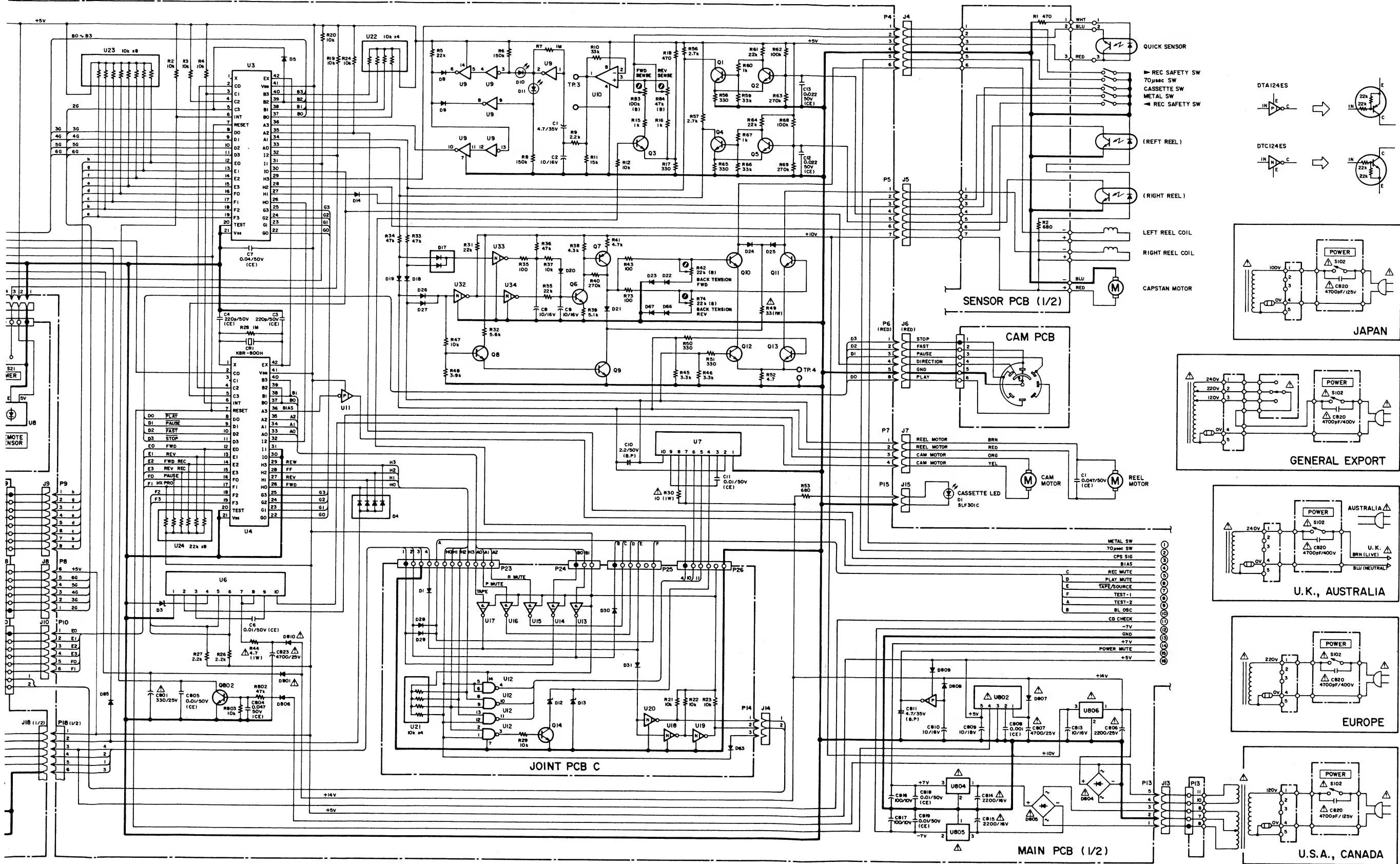
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R-919X



PCB	REF. NO.	COMPONENT
MAIN	U1	μP07566CS
JOINT-D	U2	LC7800
MAIN	U3	LM6402H-422
MAIN	U4	LM6402H-422
JOINT-D	U5	TC74HC154P
MAIN	U6	BA6209
MAIN	U7	BX1407
TIMER	U8	MA0690BP
MAIN	U9	LA6358
MAIN	U10	DTA124ES
JOINT-C	U11	MA011BP
JOINT-C	U12	DTA124ES
JOINT-C	U13 ~U17	DTA124ES
JOINT-C	U18 ~U20	DTA124ES
JOINT-C	U21	10k x4
MAIN	U22	10k x4
MAIN	U23	10k x8
MAIN	U24	22k x6
MAIN	U25	10k x5
MAIN	U30 ~U34	DTA124ES
DISPLAY	U35	DTA124ES
DISPLAY	U36	MA011BP
MAIN	U802	LM78MR05
MAIN	U803	DTA124ES
MAIN	U804	MSF78M07L
MAIN	U805	MSF78M07L
MAIN	U806	MSF78M10L
MAIN	Q1 ~Q6	2SC2603F
MAIN	Q7	2SA1115F
MAIN	Q8	2SC2603F
MAIN	Q9 ~Q13	2SD734F
JOINT-C	Q14	2SC2603F
MAIN	Q802	2SC2603F
JOINT-C	D1	IS2473
MAIN	D3	RD11EL2
MAIN	D4	DAP401
MAIN	D5	ISS133
DISPLAY	D6, D7	ISS133
MAIN	D8, D9	ISS133
MAIN	D10, D11	LT2-MR15
JOINT-C	D12	RD3.3EL2
JOINT-C	D13	RD6.2EL2
MAIN	D14	ISS133
MAIN	D17	MC921
MAIN	D18 ~D27	ISS133
JOINT-C	D28 ~D30	ISS133
JOINT-C	D31	IS2473
DISPLAY	D32 ~D46	ISS133
DISPLAY	D48	LN21RPH-TA
DISPLAY	D49, D50	LN31GPH-TA
JOINT-D	D52 ~D54	ISS133
JOINT-D	D55	MC921
JOINT-D	D56	ISS133
MAIN	D57	ISS133
DISPLAY	D58 ~D60	ISS133
JOINT-C	D63	IS2473
DISPLAY	D64	ISS133
MAIN	D65 ~D67	ISS133
MAIN	D801	SM-1A-02LFA
MAIN	D804	2SVB10
MAIN	D805	W02
MAIN	D806	ISS133
MAIN	D807	SM-1A-02LFA
MAIN	D808, D809	ISS133
MAIN	D810	SM-1A-02LFA

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1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ΔParts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

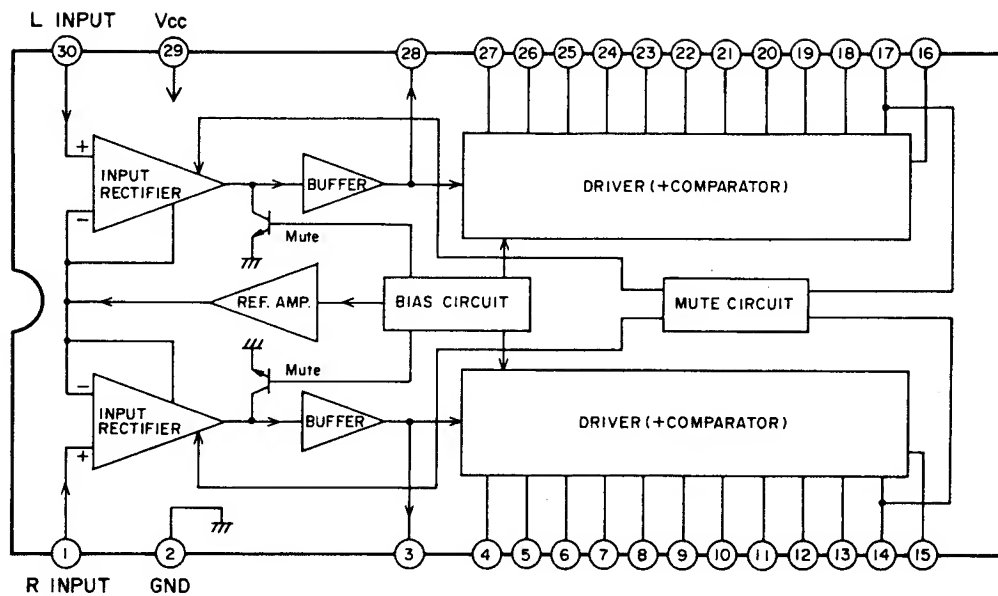
注意

1. 抵抗の単位はΩ (k=kΩ, M=MΩ) です。
2. コンデンサの単位はμF (p=pF) です。
3. Δマークのある部品は安全重要部品です。交換するときは必ずティアック指定の部品を使用してください。

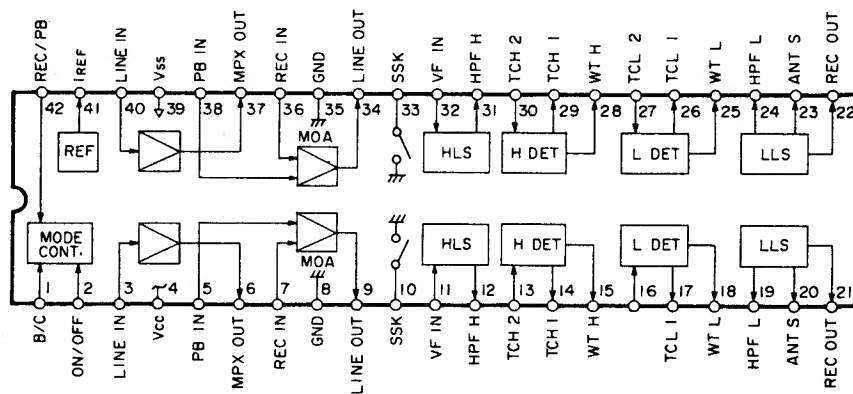
R-919X STEREO CASSETTE DECK
1st Issue; October, 1987

INSTRUCTIONS FOR SERVICE PERSONNEL
TURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-
RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED
ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

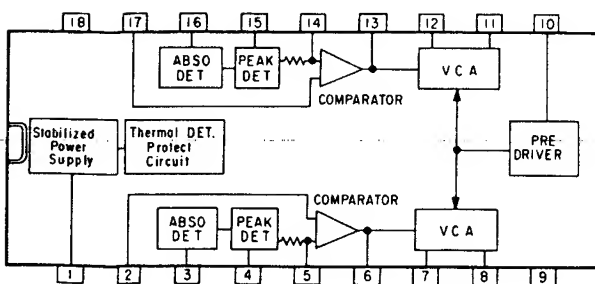
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